Vivian Juan-Saunders
Chairwoman

Ned Norris Jr.
Vice Chairman

OFFICE OF THE CHAIRWOMAN
& VICE CHAIRMAN
TOHONO O'ODHAM NATION
P.O. Box 837 · Sells, Arizona 85634
Telephone (520) 383-2028 · Fax (520)383-3379

May 3, 2007

Rural Health Care Grant
Federal Communications Commission
445 12th Street, South West
Washington, D.C. 20554

Dear Madam or Sir:

The Tohono O'odham Nation Department of Information Technology is submitting a
proposal to implement an FCC Pilot Program for Enhanced Access to Advanced
Telecommunications and Information Services under *Rural Health Care support
Mechanism*, WC Docket No. 02-60, Order (rel.Sep.29, 2006); Order on Reconsideration
(rel Feb. 6, 2007). The Tohono O'odham Nation is a federally-recognized tribe that
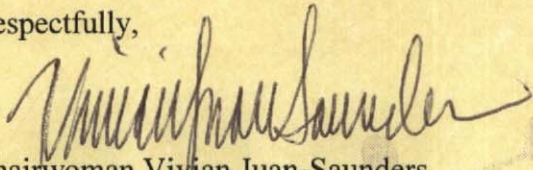includes approximately 28,000 members occupying tribal lands in Southwestern Arizona.

The Department of Information Technology (DOIT) will collaborate with other
departments of the Tohono O'odham Nation and county, State, and federal agencies to
establish a regional network of health care providers, including also entities addressing
homeland security and bio-terrorism issues. This collaboration proposing funding for
installation of a dedicated broadband network will provide the means to connect the
Tohono O'odham Nation public health and safety forces with agencies and organizations
that can assist with implementation of a comprehensive health care delivery system that
will reach even the most remote geographic areas of the Tohono O'odham Nation. It will
also provide the means to increase connectivity for Border Health with the Tohono
O'odham Police Department, and the Pima County Sheriff's Department, which is
essential due to the Tohono O'odham Nation's 70 miles of border shared with Mexico.

The new broadband network will serve two purposes: 1) provision of one-time funding
to purchase and install a broadband network connecting the Nation's health care
providers with the existing provider network will greatly increase access to telehealth and
telemedicine services, and at the same time provide the foundation to enhance
coordination and management of services on the Nation; and 2) providing a redundant

backbone for the Indian Health Service and the Tohono O'odham Nation to ensure connectivity for health and safety. This initiative will be designed to serve as a model for developing a sustainable integrated state-wide and regional telehealth network that supports and expands rural healthcare services while offering an immediate and efficient access network in the event of a state, regional or national emergency.

As Chairwoman of the Tohono O'odham Nation, I authorize and approve the submission of this grant for the stated purposes heretofore mentioned, I look forward to your review and response to this grant application.

Respectfully,

Chairwoman Vivian Juan-Saunders
Tohono O'odham Nation
P.O. Box 837
Sells, Arizona 85634

TOHONO O'ODHAM NATION
Department of Information Technology

P. O. Box 2425
Sells, AZ 85634

Proposal

FCC Pilot Program for Enhanced Access to Advanced Telecommunications and Information Services under *Rural Health Care support Mechanism*, **WC Docket No. 02-60**, **Order (rel.Sep.29, 2006); Order on Reconsideration (rel. Feb. 6, 2007)**

TABLE OF CONTENTS

Summary Statement

Narrative:
- Lead Organization
- Goal and Objectives of Proposed Network
- Estimation of Total Yearly Cost of Network
- For-profit Network Participants
- Source of Financial Support and Anticipated Revenues
- Budget Summary – Detailed in Appendix A
- Health Care Facilities in Network
- Rural Urban Community Area
- Previous Experience in Developing and Managing Telemedicine Programs
- Project Management Plan
- Coordination throughout Region and State
- Sustaining the Network

Appendices:
- Network Map
- Map of Tohono O'odham Nation
- Letters of Agreement to Collaborate

Requested Waiver of Rules

FCC INFRASTRUCTURE DEVELOPMENT PROPOSAL

Summary Statement

The Tohono O'odham Nation Department of Information Technology is submitting a proposal to implement an FCC Pilot Program for Enhanced Access to Advanced Telecommunications and Information Services under *Rural Health Care support Mechanism*, WC Docket No. 02-60, Order (rel.Sep.29, 2006); Order on Reconsideration (rel Feb. 6, 2007). The Tohono O'odham Nation is a federally-recognized tribe that includes approximately 28,000 members occupying tribal lands in Southwestern Arizona. The Nation is the second largest in both population and geographical size, with a land area of over 2 million acres, approximately the size of the State of Connecticut. The Tohono O'odham Nation has no public transportation except for the Health Transportation Service that provides non-emergency health transportation bus and van services, one central office for provision of behavioral health, community health, and diabetes prevention services, with limited services at several community locations. Home health care needs are increasing dramatically, with fewer staff available to meet these needs. There is ongoing discussion with the collaborators on the need for telehealth and telemedicine connectivity to supplement existing services. There is no connectivity infrastructure to support the provision of video conferencing, and telemedicine equipment for real time and stored and forward clinical applications, and education. The collaborator network to support telehealth and telemedicine has been developed, and includes regional and statewide collaboration after infrastructure development.

The Department of Information Technology (DOIT) will collaborate with other departments of the Tohono O'odham Nation and county, State, and federal agencies to establish a regional network of health care providers, including also entities addressing homeland security and bio-terrorism issues. Included in the project will be: the Nation's Department of Health and Human Services and its divisions, including Behavioral Health, Healthy O'odham Promotion Program, Community Health, and Senior Services, all of which are exploring telemedicine/telehealth service provision; the Nation's Department of Public Safety, including the Police Department and Juvenile and Adult Detention Centers, the Fire Department, and coordination with Homeland Security. External collaborators include: The Tucson Area Indian Health Service provides primary medical care at three sites, a Health Clinic at San Xavier, a Hospital at Sells, and a Clinic at Santa Rosa, all located on the Tohono O'odham Nation; the Carondelet Health Network and the Arizona Telemedicine Program, that have both pioneered telemedicine in Arizona, providing telehealth services to other tribes and rural health providers; the Pima County Health Department; Homeland Security, the Arizona Department of Health Services Office on Border Health; and the University of Arizona Mel and Enid Zuckerman College of Public Health.

This collaboration proposing funding for installation of a dedicated broadband network will provide the means to connect the Tohono O'odham Nation public health and safety forces with agencies and organizations that can assist with implementation of a comprehensive health care delivery system that will reach even the most remote geographic areas of the Tohono O'odham Nation. It will also provide the means to increase connectivity for Border Health with the Tohono O'odham Police Department, and the Pima County Sheriff's Department, which is essential due to the Tohono O'odham Nation's 70 miles of border shared with Mexico. A further

benefit will be enhanced connectivity among all of the Nation's health providers with the Pima County Health Department, and with Border Health and safety forces, to establish a comprehensive plan that can be effectively implemented to address bio-terrorism. The new broadband network will serve two purposes: 1) provision of one-time funding to purchase and install a broadband network connecting the Nation's health care providers with the existing provider network will greatly increase access to telehealth and telemedicine services, and at the same time provide the foundation to enhance coordination and management of services on the Nation; and 2) providing a redundant backbone for the Indian Health Service and the Tohono O'odham Nation to ensure connectivity for health and safety, as there is an existing fiber line owned by the Tohono O'odham Utility Authority. (The existing line is not accessible for health services connectivity, as usage costs are far beyond the means of the Nation's Department of Health and Human Services, the Tohono O'odham Community College, and the Indian Health Service.)

The telehealth network build-out will provide high availability communications links into rural health care centers throughout the Tohono O'odham nation and Southern Arizona communities. This telemedicine network will enhance and augment capacity to support digital imaging data transmission and large data files, as well as provide alternate pathways for data transfer. By connecting various rural healthcare facilities and their providers, the telehealth network will support a broad spectrum of telemedicine applications that serve rural patients and their providers and address disparities in access to critical healthcare needs.

Designed as a two-year project, phase 1 will incorporate the network design, modeling and initial deployment to enhance the area networks and connections to I2 and NLR, which in turn will establish the basic infrastructure for the telehealth network. Based on the ongoing evaluation, modeling and design, phase 2 will be concentrated on the deployment and inter-connectivity to external infrastructure (i.e. Arizona Telemedicine Program, Carondelet Health Network) and provide access to Internet 2 and NLR infrastructure.

This initiative will be designed to serve as a model for developing a sustainable integrated state-wide and regional telehealth network that supports and expands rural healthcare services while offering an immediate and efficient access network in the event of a state, regional or national emergency.

The project will be self-sustaining due to providing the infrastructure to implement centralized and electronic client data management, increased ability for third party billing, and increased availability of billable health care services on the Nation. Further, the Tohono O'odham Community College will be able to expand its course offerings through increased connectivity to enable students to take courses in local areas and at home, and to connect with four-year colleges to enable students more higher education options.

Narrative

The plan to enhance connectivity to interconnect the rural Tohono O'odham Nation's health services and safety forces, the Tohono O'odham Community College, and the Indian Health Service based on the Nation, and to connect with the Carondelet Health Center, the Pima County Health Department, and the federal Border Health and Homeland Security/Border Patrol is designed to ensure provision of health services through telehealth and telemedicine, and to ensure connectivity in the event of mass disease and bio-terrorism conditions. The narrative is framed to address the required answers raised in the FCC *Rural Health Care support Mechanism*, WC Docket No. 02-60, Order (rel.Sep.29, 2006); Order on Reconsideration (rel Feb. 6, 2007).

☐ **Identify the organization that will be legally and financially responsible for the conduct of activities supported by the fund;**

The Lead Applicant for the pilot project is the Tohono O'odham Nation Department of Information Technology (DoIT). The Department of Information Technology provides all Information Technology services for the Nation, and has successfully coordinated provision of email services for all departments; assessed the needs of the Nation for improved infrastructure to support the steadily increasing needs including: greatly expanded data management capability for all of the Nation's Department of Health and Human Services divisions; expanding internal and external electronic communication requirements.

The Departments of Information Technology will oversee the project, with significant in-kind staff time contributed to both planning and implementation phases. The Chief Information Officer for the Department has developed local, State, and National affiliations, and is a member of tribal, State and national Information Technology organizations, and will learn from and share the project results through these organizations.

The DoIT will oversee this project that will provide "backbone" connectivity to the external project collaborators, including the key Arizona Telemedicine Health Network, that will also enhance services to the O'odham through telemedicine and allow connectivity to other tribal entities that are connected through the Tohono O'odham Broadband Internet Access Solution (TOBIAS). The TOBIAS is a cost-sharing solution that allows on-reservation tribal entities to cost share a 6MB - Partial DS3 connection that allows them access to a maximum of a T-1 connection at a fraction of the price. This project has been active since 2003 and has over (7) participants which is almost 80% of tribal entities on-reservation. Through TOBIAS each participant received at T-1 connection, firewall service, intrusion detection services, and logging of Internet traffic. The TOBIAS project has created a Wide Area Network by definition of the State of Arizona Target Network Architecture, to provide connectivity as one aggregation mechanisms for disparate agencies with common communication requirements.

The project will be able to provide best practices to other tribes and will also assist the Arizona Governor's Council on Information and Technology – Communications Infrastructure Advisory Committee (GCIT- CIAC) in the implementation of a broadband solution in a rural to remote areas. Other tribes can look forward to creating or participating in a broadband network, such as

the Arizona Telemedicine Health Network, to enhance the delivery of services to its tribal members and rural Arizona. DoIT's Chief Information Officer's national participation on select committees and participation through the Federal Communications Commission Indian Telecommunication Commission (FCC-ITI), will support the proposed project, and serve as a model for other tribes that will to resolve relevant issues such as rights-of-way, enterprise architecture, and other federal requirements.

☐ **Identify the goals and objectives of the proposed network;**

The goals and objectives of the proposed network are as follows, including the goal for the pilot infrastructure phase, and the goals for the implementation phase.

<div align="center">

GOALS AND OBJECTIVES

</div>

Goal 1: Establish infrastructure to facilitate implementation of a comprehensive telemedicine program for the Tohono O'odham Nation that will enable the Nation to connect into a nationwide backbone of telemedicine networks.

Objective 1: Build the wireless infrastructure that will connect the Nation internally to its own departments and programs and externally to other external networks.
Task 1.1: Implement necessary agreements among Nation's departments, the Tohono O'odham Community College, the Indian Health Service, and Qwest
Task 1.2: Implement agreements among utility providers to enable connectivity.
Task 1.3: Purchase Equipment
Task 1.4: Designate/Hire Telemedicine Manager to provide oversight of the building project, service agreements and program coordination.
Task 1.5: Implement the building project of the wireless network
Task 1.6: Test connectivities with partners
Task 1.7: Maintain network connections

Goal 2: Link with statewide and regional networks that provides a nationwide connectivity to governmental institutions, academic and health care communities.
Objective 2: Define and establish telemedicine services with the following members of the TO Telemedicine Partnership Team:
    a. Indian Health Services Telemedicine Network
    b. Arizona Telemedicine Program
    c. Carondelet Health Network, a member of Ascension Health
    d. Pima County Health Department
    e. Border Health Office, Arizona Department of Health Services
Task 2.1: Obtain telemedicine service agreements with each partner
Task 2.2: Identify telemedicine site coordinator for each partners
Task 2.3: Provide training for site coordinators and designated TO staff.

Goal 3: Provide access to innovative and advanced applications in clinical services, continuing education and research.

Objective 3: Establish the Tohono O'odham telemedicine clinical, research and educational program with financial structures that will support the telemedicine operations
Task 3.1: Identify, prioritize and coordinate professional and public education programs related to work force development and higher education
Task 3.2: Identify, prioritize and coordinate clinical services related to:
   a. Health Promotion
   b. Community Health
   c. Behavioral Health
   d. Bioterrorism/Rapid Response
   e. Border Health
Task 3.3: Pursue reimbursement structures, billing processes and service grants for clinical services and educational programs.

Implementation of this regional Telehealth network within two years that will achieve the following outcomes:
   • Connection of 95% of the Tucson Area providers, who will be able to actively share electronic health information with Tucson Area IHS facilities;
   • Improved access to health care resources, quality of care and quality transparency by providing timely health information to providers and beneficiaries;
   • Improved coordination of care for chronic diseases and increase preventive interventions;
   • Improved coordination between behavioral health and physical health services which will reduce medication errors/abuse and increase case management effectiveness;
   • Reduction in medical costs associated with prescription errors, diagnostic lab/radiology test redundancy, unnecessary emergency room utilization and medical errors;
   • Implement open source tools to meet technical standards common to web technologies and internet connectivity.

☐ **Estimate the network's total costs for each year;**

In order to determine the network's total costs for each year, we are considering several aspects from product acquisition, integration into the IT environment to quantifiable business cost. More specifically the follow areas are factored into our estimate (*see Appendix A for details*):

   • ***Product Acquisition & Ongoing Vendor Costs*** include all the up-front hardware, software, implementation and training costs associated with purchasing and implementing the network, as well as hardware and software support and maintenance agreements.

   • ***Internal Operational Costs*** include all labor costs associated with the ongoing management (e.g., utilization monitoring and load balancing) and operation of the network as well as all ongoing non-labor costs (e.g., bandwidth, facilities, environmental).

   • ***Quantifiable Business Cost of Downtime*** includes only those downtime costs that the DoIT measures, specifically scheduled downtime and unscheduled downtime caused by network errors. Estimates of indirect business impact costs were not included.
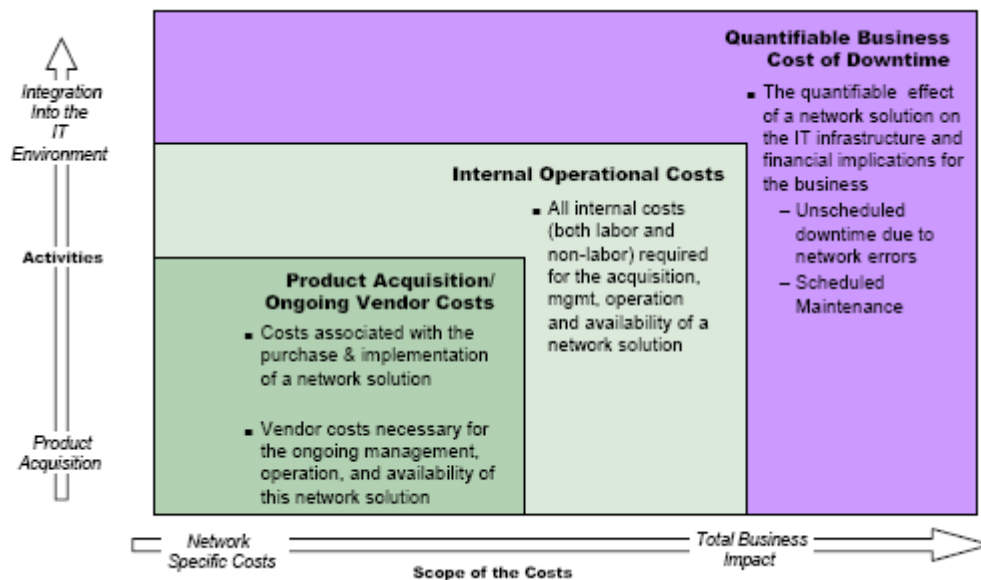
Estimated Annual Costs

	Product Acquisition	Ongoing Vendor Costs	Internal Operational Costs (labor)	Internal Operational Costs (non-labor)	Quantifiable Business Cost - Downtime	TOTAL
Year 1	358,000	10,000	187,000	104,840	35,000	$694,840
Year 2		15,000	20,000	104,840	25,000	$164,840
Year 3		15,000	25,000	104,840	20,000	$164,840

☐ **Describe how for-profit network participants will pay their fair share of the network costs;**

In consideration of including for-profit network participants the DoIT has developed a plan that will require for-profit participants to pay their fare share of the network costs through the sell of bandwidth for their use, using a model similar to what an Internet Service Provider (ISP) would do for its customers. Other services such as web hosting and/or data warehousing can also promote revenue using the infrastructure. Through the use of traffic shaping technology, this will limit the amount of bandwidth an interface can accommodate. For example, an OC-3 port (155 Mbps) might be installed on a switch, but it can be limited to DS-3 (45 Mbps) traffic for a for-profit participant. This is achieved by the use of built-in rules-based, application-level traffic-shaping technology to dynamically control traffic based on current network usage, including traffic levels and application types.

When the network is congested, a fairness algorithm in the bandwidth shaper would favor non-profit participants, including Web browsing, chat and email, at the expense of large file downloads. This will allow network administrators and operators to maintain high levels of service for priority traffic without having to purchase additional bandwidth.

- **Identify the source of financial support and anticipated revenues that will pay for costs not covered by the fund;**

The project will be self-sustaining as the infrastructure will enable the Nation's Department of Health and Human Services to implement centralized and electronic client data management, increased ability for third party billing, and increased availability of billable health care services on the Nation.   Most telehealth and telemedicine consultation for health care will be reimbursable to both parties.

The Indian Health Service Tucson area network will be 100% self-sustaining. I2 connectivity along with local circuit access will continue to be funded and supported beyond the two-year pilot period. Along with the existing Universal Service funded circuits, the Pilot Program establishes funding support for Internet2 access that would otherwise be extremely costly for IHS Areas and facilities. The Tucson Area IHS will monitor the project and access improvement for enhanced access to health care resources to IHS and Tribal facilities.

- **List the health care facilities that will be included in the network;**

See Chart below.

- **Provide the address, zip code, Rural Urban Commuting Area (RUCA) code and phone number for each health care facility participating in the network;**

The following chart includes all project collaborators participating in the network, the requested information, the Rural Urban Community Area, and role in the project.

Tohono O'odham Telemedicine Partnership

Tohono O'odham Nation

Name/Title	Department	Mailing Address	Rural Urban Commuting Area Code	Partnership Activity
Lead Applicant: Ben Standifer Chief Information Officer	*Department of Information & Technology*	PO Box 2425 Sells, AZ 85634 520-383-4357	10	Lead Applicant providing fiscal management and project oversight
Department of Health and Human Services Christina Gastellum, Executive Director	*Management of Health*	PO Box 810 Sells, AZ 85634 520-383-6000	10	Administrative responsibility for the departmental divisions that provide health services
Juanita Homer, Division Manager	*Division of Behavioral Health*	PO Box 810 Sells, 85634 520-383-6165	10	Provides behavioral health services for the members of the Tohono O'odham Nation
Cynthia Norris, Division Manager	*Division of Community Health*	PO Box 810 Sells, 85634 520-383-6200	10	Provides home health care, STD education, domestic violence prevention, well child services for members of the Tohono O'odham Nation
Dolores Galaz, Division Manager	*Division of Health Promotion*	PO Box 810 Sells, 85634	10	Provides diabetes education and prevention services, healthy heart

				demonstration project, STEPS to reduce asthma and obesity for youth, for members of the Tohono O'odham Nation
		520-383-6240		
Idaleen Reyes, Division Manager	*Division of Senior Services*	PO Box 810 Sells, AZ 85634 520-383-0165	10	Provision of Meals at Senior Centers, Home-based Services, Adult Protective Services, Caregiver Support Groups
Ed Reina, Department Director	*Department of Public Safety*	P.O. Box 837 Sells, AZ 85634 520-383-8690	10	Includes Tohono O'odham Police and Fire Departments, Coordinates with Department of Homeland Security, Border Patrol, Pima County Health Department and Nation's Departments for bioterrorism planning

Indian Health Service

Name/title	Department	Mailing Address	Rural Urban community Area	Partnership Activity
Wes Old Coyote, CIO-DIST	Tucson Area Indian Health Service	7900 South J. Stock Road, Tucson, AZ 85746 520-295-2414	1 Administration 10 Service Delivery	Provides primary health care for tribal members, plus emergency room, psychiatric, and health education services

Carondelet Health Network

Name/title	Department	Mailing Address	Rural Urban Community Area	Partnership Activity
Donna Zazworsky Manager	Diabetes Care Centers	350 N. Wilmot Tucson, AZ 85711 520-873-6553	1	Coordination of CHN Telemedicine & Telediabetes services
Margaret Edwards Director	Behavioral Health Services	350 N. Wilmot Tucson, AZ 85711 520-873-6567	1	Coordination of CHN Telebehavioral Health services
Rich Polheber CEO	Holy Cross Hospital	1171 W. Target Range Rd Nogales, Arizona 85621-2497 520-872-7790	1	CHN Border Health Representative
Gary Coriell	Information Systems Carondelet St. Mary's Hospital	1601 W. St. Mary's Rd Tucson, AZ 85745-1682 520-872-6709	1	Telemedicine Network Specialist
Christina Kelso Community Health Outreach Worker & Telemedicine Site Coordinator	Carondelet Diabetes Care Center	350 N. Wilmot Tucson, AZ 85711 520-873-3968	1	Coordinate telediabetes services

Pima County Health Department

Name/title	Department	Mailing Address	Rural Urban community Area	Partnership Activity
Dennis Douglas Executive Director	Pima Count Health Department	3950 S. Country Club, Suite 100 Tucson, AZ 85714 520-243-7735	1	Coordination of telemedicine activities
Sherry Daniels Program Manager	Bioterrorism Preparedness Program	3950 S. Country Club, Suite 100 Tucson, AZ 85714	1	Coordination of Bioterrorism Preparedness Activities

Arizona Department of Health Services: Office of Border Health

Name/title	Department	Mailing Address/Phone	Rural Urban community Area	Partnership Activity
Robert Guerrero Chief	Office of Border Health	4400 E. Broadway, Suite 300 Tucson, AZ 85711 520-770-3110	1 Administration 10 Service Delivery	Border Health Initiatives

University of Arizona College of Public Health

Name/title	Department	Mailing Address	Rural Urban community Area	Partnership Activity
Juana Casillas Native American Liaison	Rural Health Office	PO Box 245209 Tucson, AZ 85724 520-626-5837	1	Mel and Enid Zuckerman College of Public Health Rural Health Liaison

Arizona Telemedicine Program

Name/title	Department	Mailing Address	Rural Urban Commuting Area	Partnership Activity
Rick McNeely Co-Director	ATP	The University of Arizona Health Sciences Center PO Box 245032 Tucson, AZ 85724-5032 520-626-7343	1	Coordination of Arizona Telemedicine Partnership
Mike Holcomb	ATP	The University of Arizona Health Sciences Center PO Box 245032 Tucson, AZ 85724-5032	1	Network development

The project collaborators will provide matching funds to develop the infrastructure that will facilitate the provision of telehealth and telemedicine services on the Tohono O'odham Nation.

The *Tohono O'odham Nation Department of Health and Human Services (TODHHS)* includes the following divisions, that will be represented in both the planning and implementation phases of the project:

Management of Health: The office of the Executive Director is responsible to the Nation's Chairwoman for the application of policy and direction to the health care service delivery function of TODHHS. The Executive Director's Office, under the oversight and direction of Executive Branch, is responsible for the overall administration and management of the entire department. Functions include organizing, staffing, coordinating, controlling and implementation of the range of services and resources assigned to the Department. The Management of Health Division includes the Executive Director, Deputy Director, Program Development Manager, and a Project Administrator. The Executive Director and Program Development Manager will provide in-kind leadership for the project for TODHHS.

Behavioral Health: The purpose of the Behavioral Health Division is to address the unique problems and increasing number of alcohol and drug-affected individuals living on or near the Nation, and to provide behavioral health programs tailored to the needs of the Nation's individuals. The Division provides chemical dependency outpatient treatment to addicts and their families, both adult and youth, referred by self, the courts, family members and other agencies with a focus on developing a healthy drug-free lifestyle. Counseling is provided to both youth and adults in group and individual sessions, referral to inpatient treatment, and aftercare plans and follow-up with counseling for clients returning from inpatient treatment. The Division has identified clinical areas that can be greatly enhanced by telehealth programs, including psychiatric and psychological assessment, clinical supervision, and education.

Community Health: The primary purpose of the Division of Community Health is to provide health promotion and disease prevention education to members who reside on or near the Tohono O'odham Nation. Community Health programs are the following. Women, Infants & Children is a supplemental food program. Women are eligible during the prenatal and postpartum stage. Infants and children are eligible for supplemental food and formula up to the age of five (5) years as long as they are nutritionally at risk. Diabetes Counselors provide diabetic education and issue glucometer machines and supplies to all diabetic patients. Each newly diagnosed diabetic patient receives one-to-one education. The Diabetes Counselors, in coordination with IHS, provide satellite clinics in remote areas of the Nation.

Tuberculosis Prevention & Control services are provided by two licensed practical nurses. Staff provide two TB Clinics monthly in San Xavier and Sells. Home Health Care and limited skilled nursing is provided by referral from IHS and the Arizona Long Term Care System (ALTCS) with a primary focus on care for the homebound elderly. HIV & Sexually Transmitted Disease (STD) Prevention services are provided by one Licensed Practical Nurse. Pre and post testing counseling is conducted. The Dialysis Advocate program is designed to provide assistance to all dialysis patients receiving treatment. Part of the service includes, but is not limited to, interpreting for non-English speaking patients during renal clinics, foot clinics, and assistance

with medication refills. The <u>Community Health Representative</u> (CHR) component is designed to provide health promotion and disease prevention education to members who reside on the Nation

Health Promotion: A primary goal of the Division of Health Promotion is to reduce the number of new cases of diabetes reported on the Tohono O'odham Nation. Division health promotion programs include: community health fairs, diabetes prevention awareness presentations, nutrition education, fitness education, and the Sells Fitness Center. The Division is responsible for the Tohono O'odham Diabetes Data Improvement Project.

Senior Services: Through an inter-governmental agreement with the State of Arizona, the <u>Arizona Long Term Care System</u> (ALTCS) program provides case management services to eligible O'odham. These services ensure delivery of health care and health care related social services to enrolled members living in nursing homes or their own homes. <u>Social Services</u> provides non-medical custodial care and protection to eligible adult clients. Information, referral, advocacy, adult protection and homemaker services are provided in the most appropriate non-medical setting. The <u>Elderly Program</u> provides nutritional services to elders as well as transportation services, recreational and socialization activities. Planned menus are approved by a dietitian to ensure that the nutritional needs of elders are met. The program strives to minimize elder's isolation and promote independence

The following chart identifies specific programs in the Department divisions that can be established in cooperation with Carondelet Health Center after completion of the backbone.

TELEHEALTH AND TELEMEDICINE UNMET NEEDS

Activity	*Telehealth Equipment*	*Cost Where Known*	*Partners*
BEHAVIORAL HEALTH			
Individual Psychiatric Assessments	Tandberg	Reimbursable to both BH and CHN	Carondelet Behavioral Health
Crisis Evaluations	Tandberg	Reimbursable to both BH and CHN	Carondelet Behavioral Health
Counseling	Tandberg	Reimbursable to both BH and CHN	Carondelet Behavioral Health
Case Management	Tandberg	Reimbursable to both BH and CHN	Carondelet Behavioral Health
COMMUNITY HEALTH			

Education for:
  Patient
  Families
  Staff
	Tandberg/ Video Conferencing	Program Fee per program or Community Service	Carondelet Health Network, Arizona Telemedicine Program

Wound Care	Digital Camera	Reimbursement for IHS and CHN	Carondelet Health Network
STD Education	Tandberg/ Video conferencing	Covered by TO Community Health	TO Community Health HUB program to rural sites
Teletracking for Cancer Treatment	Tandberg/ Video conferencing		Arizona Cancer Center, Southern Arizona Cancer Associates, Indian Health Service, Intertribal Council of Arizona
Breastfeeding case management for inpatient Postpartum Mothers (especially for premature infants and twins)	Video conferencing	Community Service by providers	Tucson Medical Center, University Medical Center, CHN, Indian Health Service
Teletracking for CHF, Diabetes, Asthma	Video phones	Grant funded initially	Carondelet Health Network
Vascular Evaluation to identify PAD and provide early intervention	PadNet	Initial Cost: Able to bill for tests	Arizona Endovascular Center
Domestic Violence: Collection of Forensic Evidence and Case Management	Video phones	Grant funding, some costs reimbursable	Brewster Center for Domestic Violence, Indian Health Service, Tohono O'odham, TON Prosecutor's Office, Southern Arizona Center for Sexual Assault
Bioterrorism: identify communicable diseases/health status of border entrants	Digital Camera	Grant funded initially	Pima County Health Department, Sonoran Secretary of Health, Arizona Department of Health Services
Emergency Preparedness: communication for disease outbreaks	Digital Camera, Video Phones, Video Conferencing between Command Centers	Grant funded initially	Pima County Health Department, Sonoran Secretary of Health, Arizona Department of Health Services
Cross-border Health Care: coordination for Sonoran tribal	Video Phones, Video Conferencing	Grant funded initially	Sonoran Secretary of Health, IHS SSU, PIMC

members			
HEALTH PROMOTION			
Nutrition/Medical Nutrition/Therapy	Tandberg/Video Conferencing	Reimbursable to CHN	CHN Diabetes Care Center
STEPS Grant Activities	Tandberg/Video Conferencing		
WORK FORCE DEVELOPMENT			
Professional Development in Diabetes: Core Classes Advanced Classes Case Studies	Tandberg Video Conferencing Equipment	Program Fee paid to CHN	Carondelet Diabetes Education Institute
Professional Development for CHRs, Nurses Aids and LPNs	Tandberg Video Conferencing Equipment	Course Fee paid to TO College, NAU, UA	Tohono O'odham Community College, Northern Arizona University, University of Arizona
Nutrition Education: for HOPP staff, WIC staff, CHRs	Tandberg Video Conferencing Equipment		Central Arizona College, Arizona Department of Health Services
Grand Rounds: College of Medicine College of Nursing	Tandberg Video Conferencing Equipment	Included in ATP network fee	University of Arizona College of Medicine and Collage of Nursing, CHN

☐ **Indicate previous experience in developing and managing telemedicine programs;**

The Carondelet Health Network (CHN) has extensive experience in developing and managing telehealth and telemedicine programs, and will assist the Tohono O'odham Nation and the Indian Health Service in developing and managing the health care and education programs.

CHN established one of the first partnerships for telemedicine with the Arizona Telemedicine Program (ATP) and developed the prison telemedicine program in 1999. This program continues to provide a broad range of clinical services via telemedicine for both state and federal prison systems in Arizona.

With the growing ATP network of 150 sites currently throughout Arizona, CHN has been a leader in leveraging their expertise and network sites in diabetes self-management by providing telediabetes patient, professional education and clinical services to rural and urban settings. Current CHN telehealth services provided through the ATP network include:

- Mariposa Community Health Center, Nogales, AZ: Teleschool diabetes prevention program
- Tuba City Regional Health Center, Tuba City, AZ: Telenutrition counseling for children and adults with diabetes, teleschool diabetes prevention program
- Phoenix Indian Medical Center, Phoenix, AZ, Carondelet Diabetes Education Institute Professional Education for diabetes education
- Copper Queen Hospital, Bisbee, AZ: Teledermatology
- Canyonlands Community Health Center, Page, AZ: teleophthalmology reads for diabetes retinopathy
- North Country Community Health Center, Flagstaff, AZ: teleophthalmology reads for diabetes retinopathy

CHN recently established the capability to provide educational services through a public IP address and currently offers the Carondelet Diabetes Education Institute to Taos Indian Health Services in Taos, New Mexico. Other locations that will be accessing this service include Yuma Regional Health Regional Medical Center, and other members of the Arizona Diabetes Coalition.

Finally, CHN is a member of Ascension Health, the nation's largest Catholic and largest nonprofit health system, serving patients through a network of hospitals and related health facilities providing acute care services, long-term care, community health services, psychiatric, rehabilitation and residential care. Ascension Health is located in 20 states (see attached map).

DOIT is well positioned to implement the infrastructure development project, having spent considerable time in assessing the infrastructure needs of the entire Tohono O'odham Nation. Basic knowledge of infrastructure requirements by DOIT, establishing an ongoing working relationship among the project partners, and common interests in enhancing systems to meet client needs demonstrate readiness to ensure that the project will be completed.

The Tucson Area Indian Health Service CIO for Information Technology previously served as the CIO of the Navajo Area IHS and Director of Information Resource Management at the Phoenix Area IHS, worked collaboratively with hospital and health care center staffs in developing Telehealth network infrastructure in support of connectivity to the Arizona Telemedicine Network. In these roles he provided technical and administrative support for infrastructure development for telemedicine clinical services, distance learning, videoconferencing and modalities to include; radiology, dermatology, retinal screening, cardiology, and tele-mental health. Currently Mr. Old Coyote provides technical and administrative oversight of current telehealth infrastructure and future FCC Rural Health Care Pilot Program for the Tucson Area IHS. Previous experience in working with the USDA's Universal Service Administration in support of the Navajo, Phoenix, and Tucson Areas infrastructure expansion and development.

□ **Provide a project management plan outlining the project's leadership and management structure, as well as its work plan, schedule, and budget;**

<div align="center">

PROJECT MANAGEMENT PLAN

</div>

Goal 1: Establish infrastructure to facilitate implementation of a comprehensive telemedicine program for the Tohono O'odham Nation that will enable the Nation to connect into a nationwide backbone of telemedicine networks.

Objective	Timeframe in Months												Responsible Member(s)
	1	2	3	4	5	6	7	8	9	10	11	12	
Objective 1: Build the wireless infrastructure that will connect the Nation internally to its own departments and programs and externally to other networks.													Tohono O'odham Dept of Information Technology
Task 1.1: Implement necessary agreements among Nation's departments, the Indian Health Service, and Qwest	X	X											Ben Standifer, Chief Information Officer, TO DOIT
Task 1.2: Implement agreements among utility providers to enable connectivity.			X	X									Ben Standifer, Chief Information Officer, TO DOIT
Task 1.3: Purchase Equipment					X	X	X						Alex Vavages, TO Network Specialist
Task 1.4: Designate/Hire Telemedicine Manager to provide oversight of the building project, service agreements and program coordination.	X												Ben Standifer
Task 1.5: Implement the building project of the wireless network								X	X	X			Ben Standifer, Alex Vavages
Task 1.6: Test connectivity with partners											X		Alex Vavages & Partnership Team Members IT staff

Task 1.7: Maintain network connections												X	Alex Vavages

Goal 2: Link with statewide and regional networks that provides a nationwide connectivity to governmental institutions, academic and health care communities.

Objective	Time Frame in Months Year Two												Responsible Member(s)
	1	2	3	4	5	6	7	8	9	10	11	12	
Objective 2: Define and establish telemedicine services with the following members of the TO Telemedicine Partnership Team: 1. Indian Health Services Telemedicine Network 2. Arizona Telemedicine Program 3. Carondelet Health Network, a member of Ascension Health 4. Pima County Health Department 5. Border Health Office, Arizona Department of Health Services													TO Telemedicine Partnership Team 1. Wesley Old Coyote, IHS 2. Ron Weinstein, MD & Rick McNeely, Co-Directors, ATP 3. Donna Zazworsky, RN, MS, FAAN, CHN Director, Diabetes & Telemedicine 4. Dennis Douglas, Executive Director, PCHD 5. Robert Guerrero, Chief, ADHS Border Health Office
Task 2.1: Obtain telemedicine service agreements with each partner	X	X	X										TO Telemedicine Manager
Task 2.2: Identify telemedicine site coordinator for each partners	X	X	X										TO Telemedicine Partners
Task 2.3: Provide training for site coordinators and designated TO staff.				X	X	X							TO Manager

Goal 3: Provide access to innovative and advanced applications in clinical services, continuing education and research.

Objective	Time Frame in Months Year Two												Responsible Member(s)
	1	2	3	4	5	6	7	8	9	10	11	12	
Objective 3: Establish the Tohono O'odham telemedicine clinical, research and educational program with financial structures that will support the telemedicine operations.													TO Telemedicine Manager
Task 3.1: Identify, prioritize and coordinate professional and public education programs related to work force development and higher education							X	X	X	X	X	X	TO Telemedicine Partnership Team
Task 3.2: Identify, prioritize and coordinate clinical services related to: f. Health Promotion g. Community Health h. Behavioral Health i. Bioterrorism/Rapid Response j. Border Health							X	X	X	X	X	X	TO Telemedicine Partnership Team
Task 3.3: Pursue reimbursement structures, billing processes and service grants for clinical services and educational programs.							X	X	X	X	X	X	TO Telemedicine Partnership Team

☐ **Indicate how the telemedicine program will be coordinated throughout the state or region.**

The Tohono O'odham Telehealth Infrastructure will enable the Nation to establish local, state, regional and national connections through the following network partners.

The Arizona Telemedicine Program (ATP): The ATP infrastructure team has a world–renowned reputation for innovative and successful telemedicine activities. ATP operates a statewide telehealth infrastructure from its hub location at the University of Arizona Health Sciences Center in Tucson. It has developed this infrastructure linking over 160 sites over a period of ten years, utilizing state, federal and private funding mechanisms (see attachment).

In the last five years, ATP has worked in partnership with the Four Corners' Telehealth Consortium through Department of Defense funding to develop/adopt, coordinate, and publish policies and standards for cross regional telemedicine and telehealth activities, promote interoperability for the electronic exchange of patient information, and to establish a virtual telemedicine and telehealth assessment center.

The ATP has enabled teleconsultations to eight charter healthcare facilities. There are many other sites connected to the network (e.g., the Arizona Department of Corrections prisons, Behavioral Health Networks, etc.) that are part of the ATP, but conduct teleconsultations with other sites or within their own tele-group practice. Many of these sites carry out far more teleconsultations than the charter sites. A total of 116,000 teleconsultations were provided over the ATP network during the past fiscal year.

For the purpose of this proposal, the Tohono O'odham will connect with ATP and be able to bridge into the ATP network for teleconsultations, continuing education, (i.e. Grand Rounds), community outreach and research.

Carondelet Health Network (CHN):
The Carondelet Health Network has a well established telehealth infrastructure that includes connections for video conferencing and clinical activities. The CHN connectivity is through both the Arizona Telemedicine Network and the Ascension Health Network. The Ascension Health Network is an ATM wide area network (WAN) which allows Ascension Health to communicate with other Ascension sites. The Tohono O'odham telehealth infrastructure can be bridged into the Ascension network through CHN.

☐ **Indicate to what extent the network can be self-sustaining once established.**

The project will be self-sustaining as the infrastructure will enable the Nation's Department of Health and Human Services to implement centralized and electronic client data management,

increased ability for third party billing, and increased availability of billable health care services on the Nation. Most telehealth and telemedicine consultation for health care will be reimbursable to both parties.

The Indian Health Service Tucson area network will be 100% self-sustaining. I2 connectivity along with local circuit access will continue to be funded and supported beyond the two-year pilot period. Along with the existing Universal Service funded circuits, the Pilot Program establishes funding support for Internet2 access that would otherwise be extremely costly for IHS Areas and facilities. The Tucson Area IHS will monitor the project and access improvement for enhanced access to health care resources to IHS and Tribal facilities.

Appendix A

Tohono O'odham Nation
Statement/Scope of Work

Microwave Backbone & Fiber Installation

Overview

The Tohono O'odham Nation – Department of Information and Technology (DoIT) is providing this BUDGETARY ESTIMATE for 2 separate Tasks.

- Task #1 includes 3ea. OC-3 FCC Licensed Microwave links and 1ea. 10Mbps Un-Licensed Microwave link.

- Task #2 includes fiber installation for Sells Health Complex connecting associated buildings.

These budgetary figures are based on the following assumptions:

- Line of site (LOS) assumed between locations with no Fresnel Zone interference.

- Detailed site surveys will be needed before final design, estimate and statement of work will be submitted.

- Existing tower structures will have adequate height, mounting space available and structural integrity to handle additional weight and wind loading for any/all new antennas.

- 110VAC power available in nearest telephone closet (IDU) for indoor radio units.

- DoIT will be providing a new switch at each location as part of the microwave project.

- Adequate existing rack space for all necessary indoor equipment.

- UPS and battery backup supplied for all new switch equipment.

- This estimate is for budgetary purposes only.

Task 1 – Microwave Installation (See Budgetary Pricing on Page 29)

The proposed links are as follows:

- **Link #1:** Westside Health Clinic – Quijotoa utilizing Licensed Ceragon Fibeair 1500P 6GHz OC-3 Non-Protected Link

- **Link #2:** Quijotoa – Nursing home utilizing Licensed Ceragon Fibeair 1500P 6GHz OC-3 Non-Protected Link

- **Link #3:** Kitt Peak - Tucson utilizing Licensed Ceragon Fibeair 1500P 6GHz OC-3 Non-Protected Link

- **Link #4:** Sells – Health Complex utilizing Un-Licensed Ceragon Fibeair 4800 5.8GHz Link

Task 2 – Health Center Fiber Installation (See Budgetary Pricing on Page 29)

6-12 Strand Multimode Fiber inter-connecting all 7 facilities for Health Complex.

Pricing Summary

TASK #1	
Microwave Design & Installation	
Materials	$ 327,661.62
Travel	$ 14,390.00
Labor	$ 123,255.00
Total for Implementation	**$ 465,306.62**
TASK #2	
Sells Health Complex Fiber Installation	
Materials	$ 27,187.70
Travel	$ 12,434.92
Labor	$ 34,275.90
Total for Implementation	**$ 73,898.52**

Optional Considerations:

Tower Structures: Budgetary Design & Build Cost Per Foot	$ 2,000.00

Maricopa County

Pinal County

Archie Hendricks
Skilled Nursing Center

Tucson, AZ

Lease Line (T1)

Tohono O'odham Nation

Westside
Health Clinic

Quijotoa Ridge

Kitt Peak

Sells, AZ

Pima County

Santa Cruz
County

LEGEND

OC-3 Licensed
Microwave

Established
Radio Tower

Link Documentation (Preliminary Only)

NH
32 16 30.37 N
112 03 22.19 W

San Simon
32 11 22.40 N
112 27 57.38 W

101.2° 18.33 mi 281.4°

32.5° 11.24 mi 212.6°

Quijotoa
32 08 15.30 N
112 09 33.50 W

32° 22′ 30″

15′

7′ 30″

Link from Kitt Peak to Tucson

Tucson
32 07 00.32 N
110 57 54.09 W

73.9° 38.78 mi 254.2°

Kitt Peak
31 57 44.30 N
111 36 01.40 W

37' 30"   30'   22' 30"   15'   7' 30"   111°   110° 52' 30"
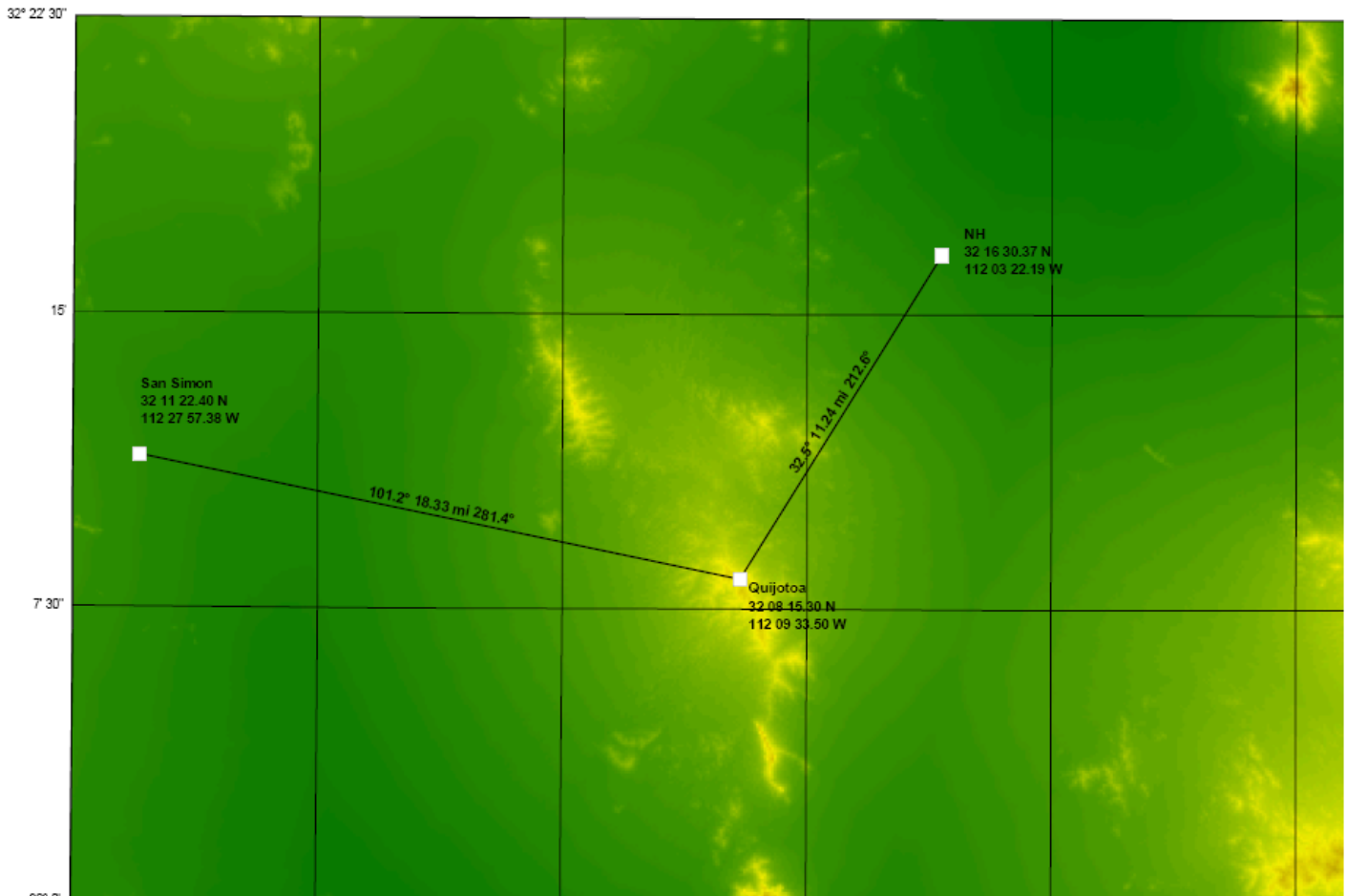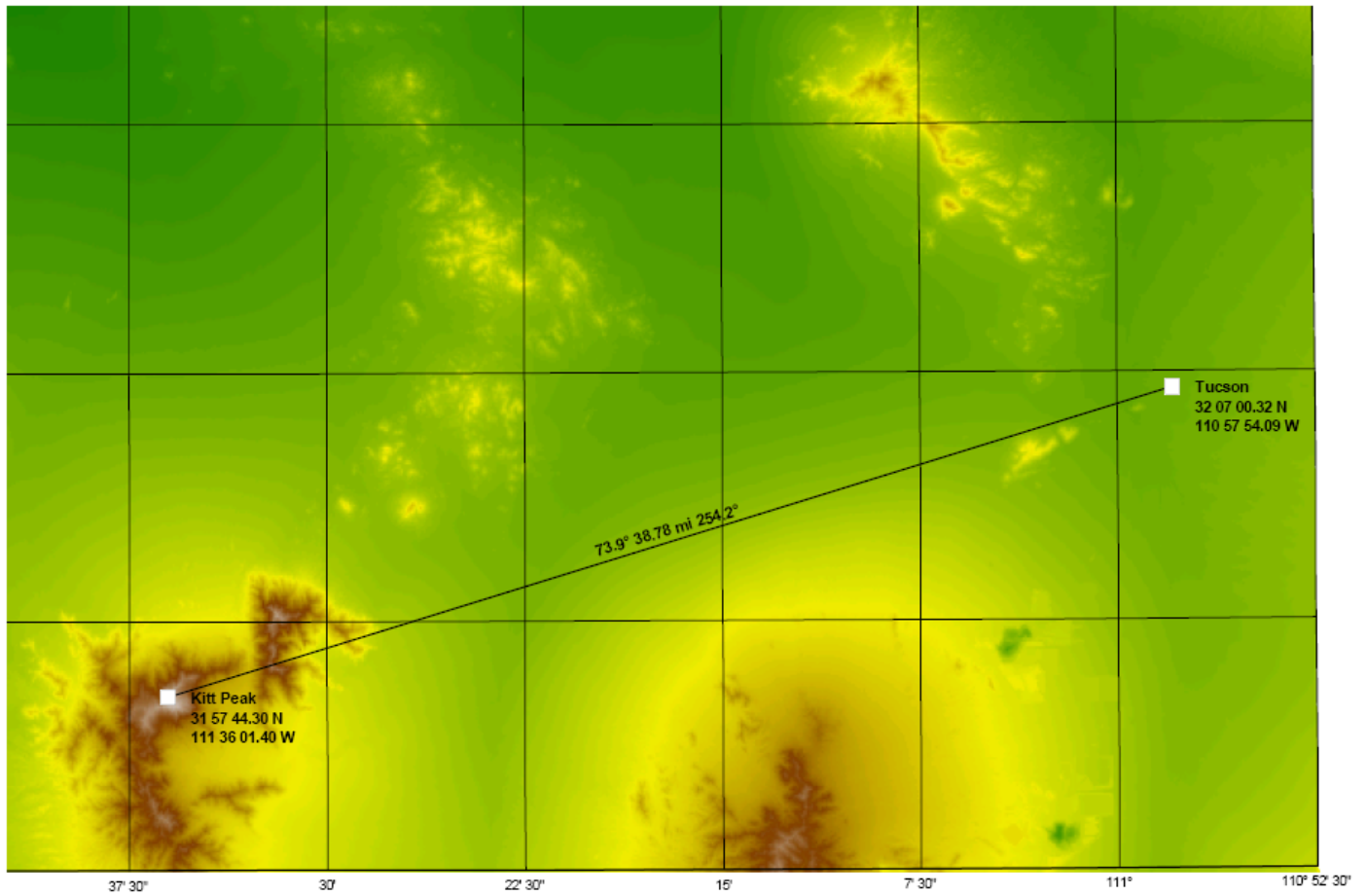
Link for Datacenter to Health Complex

HC
31 55 16.74 N
111 53 40.47 W

121.1° 2.86 mi 301.2°

Sells
31 54 53.51 N
111 52 55.41 W

112°   52' 30"   45'
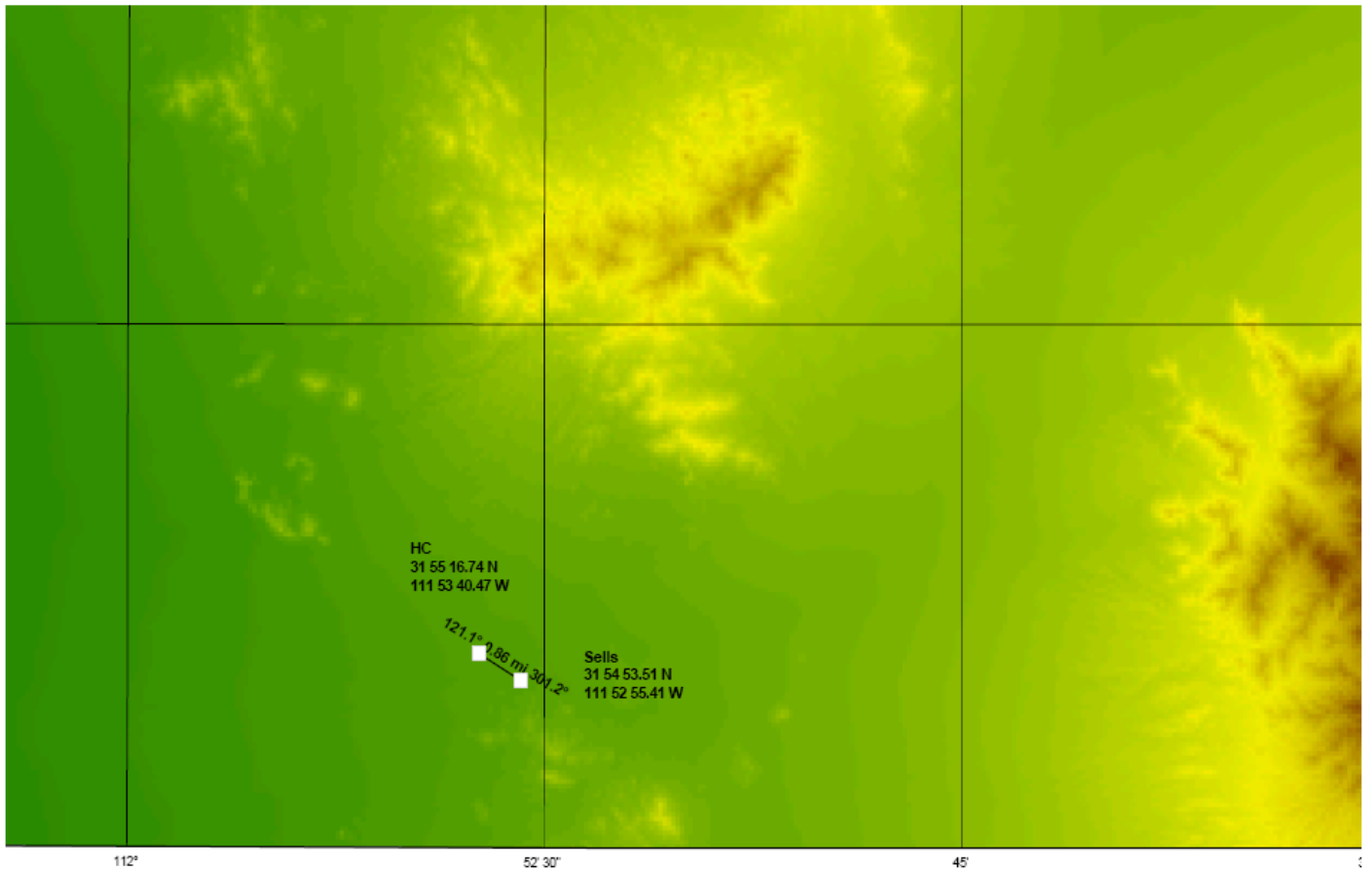
Preliminary Path Profile from San Simon to Quijotoa

San Simon			Frequency (MHz) = 6400.0	Quijotoa	
Latitude	32 11 22.40 N		K = 1.00, 0.60	Latitude	32 08 15.30 N
Longitude	112 27 57.38 W		%F1 = 100.00, 60.00	Longitude	112 09 33.50 W
Azimuth	101.19°			Azimuth	281.35°
Elevation	2017 ft ASL			Elevation	3729 ft ASL
Antenna CL	34.7 ft AGL		Preliminary Path Profile	Antenna CL	165.6 ft AGL

Apr 26 07
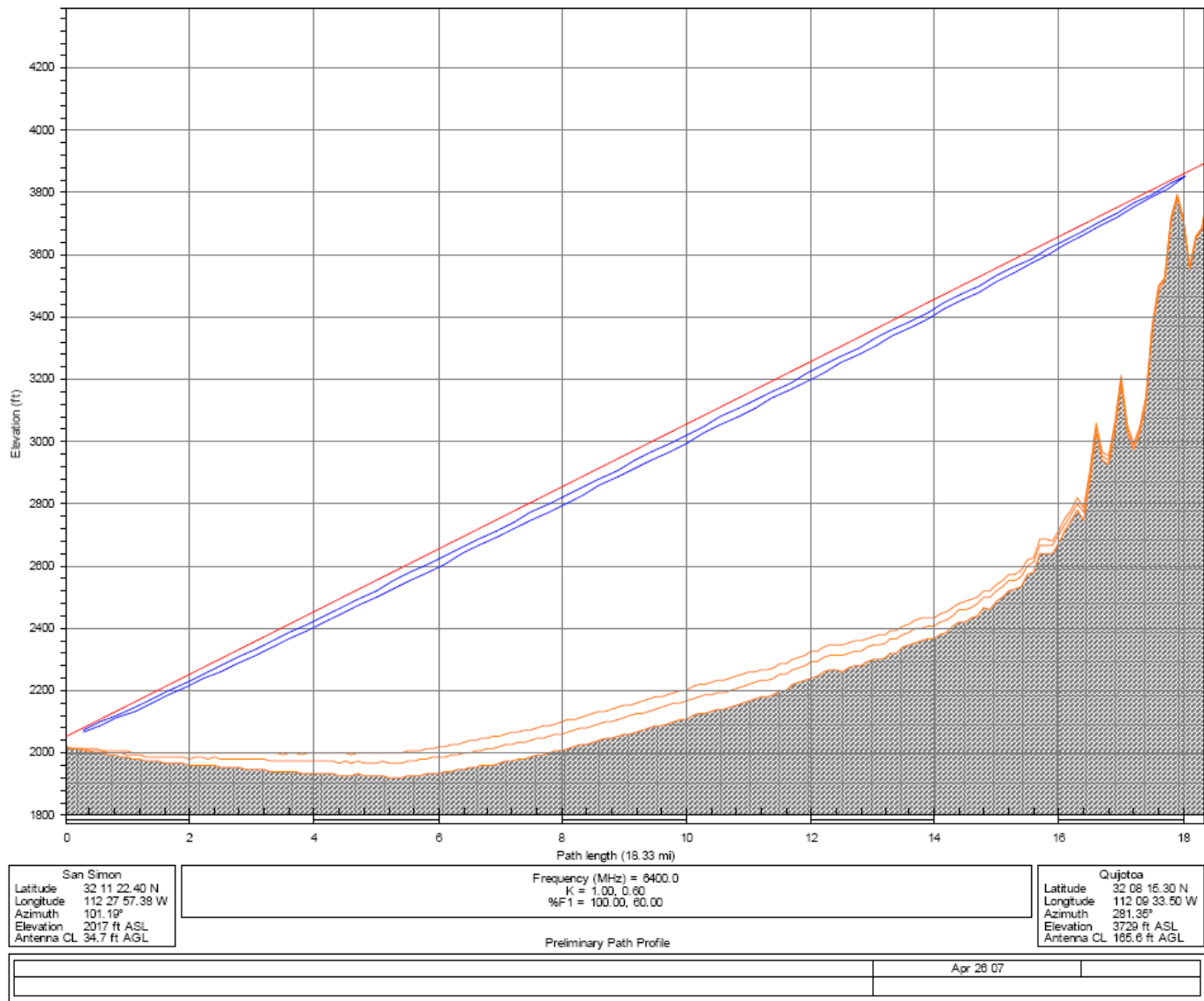
	San Simon	Quijotoa
Elevation (ft)	2016.59	3729.47
Latitude	32 11 22.40 N	32 08 15.30 N
Longitude	112 27 57.38 W	112 09 33.50 W
True azimuth (°)	101.19	281.35
Vertical angle (°)	0.99	-1.19
Antenna model	HP6-59	HP6-59
Antenna height (ft)	34.71	165.60
Antenna gain (dBi)	38.60	38.60
Connector loss (dB)	1.00	1.00
Frequency (MHz)	6400.00	
Polarization	Vertical	
Path length (mi)	18.33	
Free space loss (dB)	137.98	
Atmospheric absorption loss (dB)	0.26	
Field margin (dB)	2.00	
Net path loss (dB)	65.05	65.05
Radio model	FA1500P-6G-128Q	FA1500P-6G-128Q
TX power (watts)	0.40	0.40
TX power (dBm)	26.00	26.00
EIRP (dBm)	63.60	63.60
Emission designator	30mod7w	30mod7w
RX threshold criteria	BER 10-6	BER 10-6
RX threshold level (dBm)	-68.00	-68.00
Maximum receive signal (dBm)	-20.00	-20.00
RX signal (dBm)	-39.05	-39.05
Thermal fade margin (dB)	28.95	28.95
Dispersive fade margin (dB)	42.00	42.00
Dispersive fade occurrence factor	0.00	
Effective fade margin (dB)	28.95	28.95
Geoclimatic factor	1.58E-06	
Path inclination (mr)	19.05	
Fade occurrence factor (Po)	2.41E-04	
Average annual temperature (°F)	65.30	
Worst month - multipath (%)	99.99997	99.99997
(sec)	0.81	0.81
Annual - multipath (%)	99.99999	99.99999
(sec)	3.16	3.16
(% - sec)	99.99998 - 6.33	

Thu, Apr 26 2007
San Simon-Quijotoa.pl4
Reliability Method - ITU-R P.530-7/8

Preliminary Path Profile from Quijotoa to Nursing Center

Elevation (ft) vs Path length (11.24 mi)

Quijotoa			
Latitude	32 08 15.30 N		
Longitude	112 09 33.50 W		
Azimuth	32.50°		
Elevation	3730 ft ASL		
Antenna CL	103.6 ft AGL		

Frequency (MHz) = 11000.0
K = 1.00, 0.60
%F1 = 100.00, 60.00

Preliminary Path Profile

NH			
Latitude	32 16 30.37 N		
Longitude	112 03 22.19 W		
Azimuth	212.55°		
Elevation	1932 ft ASL		
Antenna CL	40.5 ft AGL		

Apr 26 07
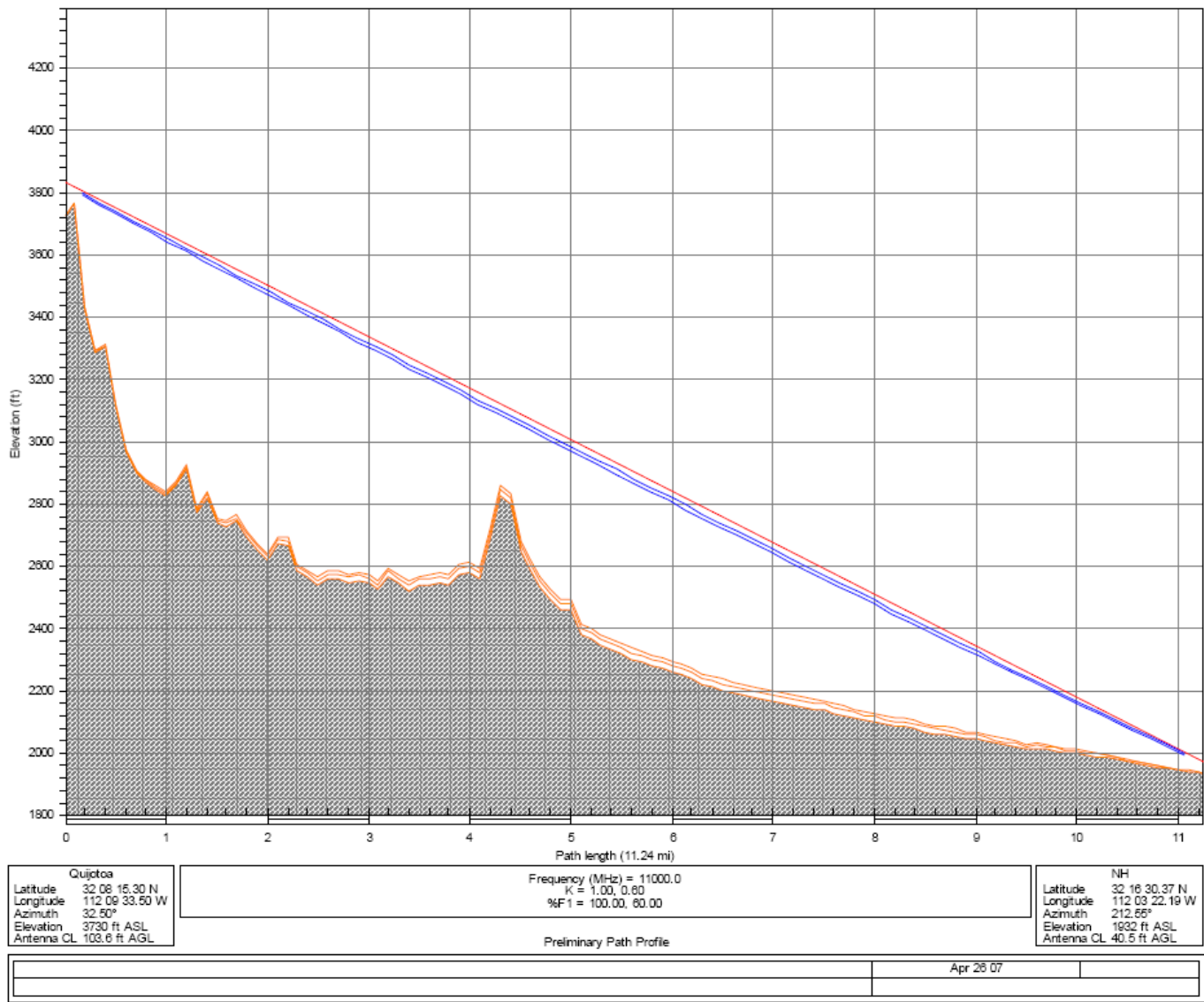
	Quijotoa	NH
Elevation (ft)	3729.91	1932.41
Latitude	32 08 15.30 N	32 16 30.37 N
Longitude	112 09 33.50 W	112 03 22.19 W
True azimuth (°)	32.50	212.55
Vertical angle (°)	-1.86	1.73
Antenna model	HP4-11	HP4-11
Antenna height (ft)	103.58	40.47
Antenna gain (dBi)	40.40	40.40
Connector loss (dB)	1.00	1.00
Frequency (MHz)	11000.00	
Polarization	Vertical	
Path length (mi)	11.24	
Free space loss (dB)	138.44	
Atmospheric absorption loss (dB)	0.28	
Net path loss (dB)	59.92	59.92
Radio model	FA1500P-11G-128	FA1500P-11G-128
TX power (watts)	0.16	0.16
TX power (dBm)	22.00	22.00
EIRP (dBm)	61.40	61.40
Emission designator	30MOD7W	30MOD7W
RX threshold criteria	BER 10-6	BER 10-6
RX threshold level (dBm)	-68.00	-68.00
Maximum receive signal (dBm)	-20.00	-20.00
RX signal (dBm)	-37.92	-37.92
Thermal fade margin (dB)	30.08	30.08
Dispersive fade margin (dB)	42.00	42.00
Dispersive fade occurrence factor	0.00	
Effective fade margin (dB)	30.08	30.08
Geoclimatic factor	1.58E-06	
Path inclination (mr)	31.34	
Fade occurrence factor (Po)	3.44E-05	
Average annual temperature (°F)	65.30	
Worst month - multipath (%)	100.00000	100.00000
(sec)	0.09	0.09
Annual - multipath (%)	100.00000	100.00000
(sec)	0.35	0.35
(% - sec)	100.00000 - 0.70	
Rain region	F Sub Tropical Arid	
0.01% rain rate (mm/hr)	23.00	
Flat fade margin - rain (dB)	30.08	
Rain rate (mm/hr)	148.89	
Rain attenuation (dB)	30.08	
Annual rain (%-sec)	99.99998 - 6.84	
Annual multipath + rain (%-sec)	99.99998 - 7.54	

Thu, Apr 26 2007
Quijotoa-NH.pl4
Reliability Method - ITU-R P.530-7/8
Fcc 5 Rain - ITU-R P530-7

Preliminary Path Profile from Kitt Peak to Tucson

Kitt Peak		Frequency (MHz) = 6400.0	Tucson	
Latitude	31 57 44.30 N	K = 1.00, 0.80	Latitude	32 07 00.32 N
Longitude	111 36 01.40 W	%F1 = 100.00, 60.00	Longitude	110 57 54.09 W
Azimuth	73.90°		Azimuth	254.24°
Elevation	6619 ft ASL		Elevation	2541 ft ASL
Antenna CL	137.4 ft AGL	Preliminary Path Profile	Antenna CL	40.4 ft AGL

Apr 26 07
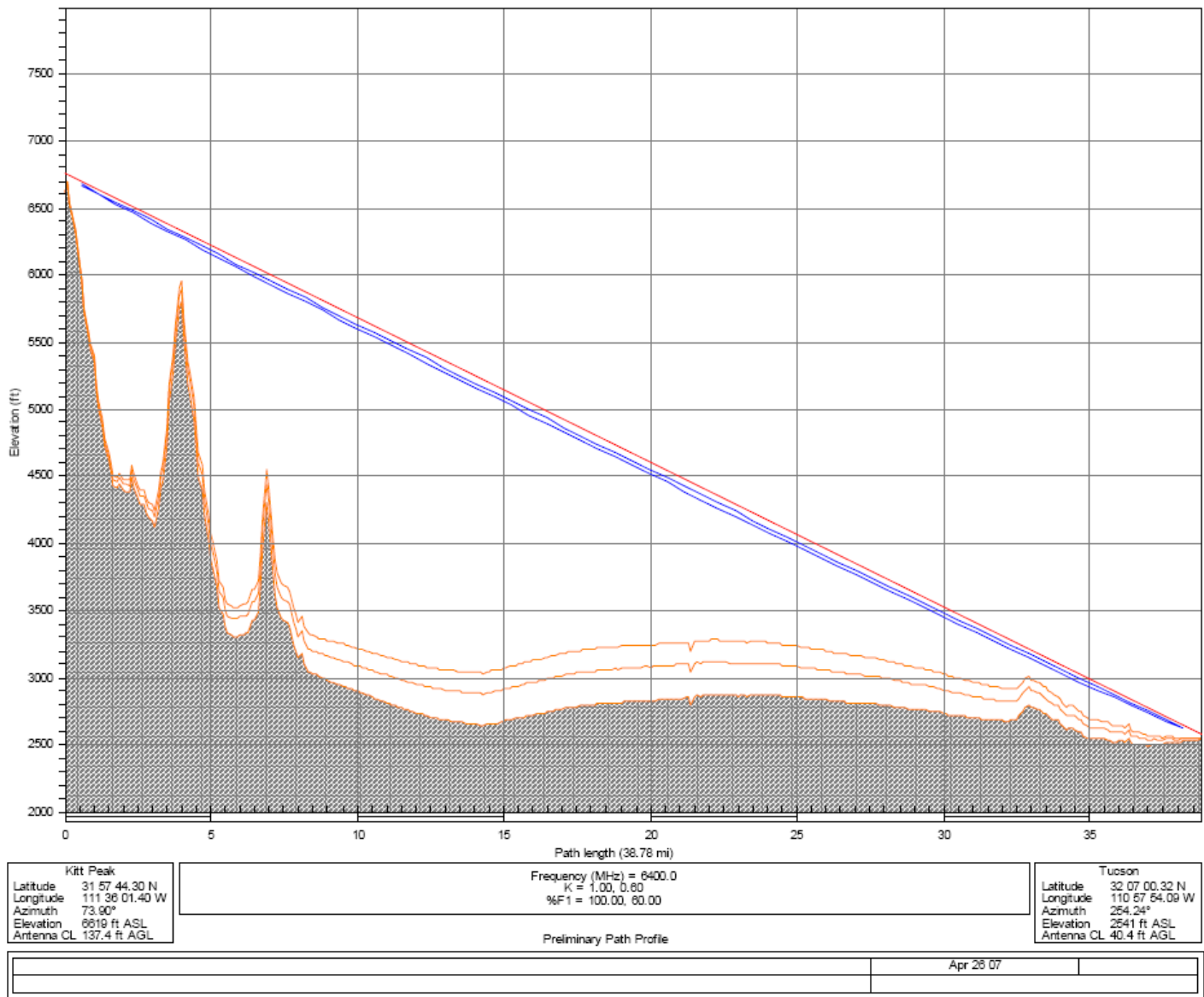
	Kitt Peak	Tucson
Elevation (ft)	6618.76	2540.52
Latitude	31 57 44.30 N	32 07 00.32 N
Longitude	111 36 01.40 W	110 57 54.09 W
True azimuth (°)	73.90	254.24
Vertical angle (°)	-1.38	0.96
Antenna model	HP8-59	HP8-59
Antenna height (ft)	137.38	40.37
Antenna gain (dBi)	41.50	41.50
Connector loss (dB)	1.00	1.00
Frequency (MHz)	6400.00	
Polarization	Vertical	
Path length (mi)	38.78	
Free space loss (dB)	144.50	
Atmospheric absorption loss (dB)	0.55	
Field margin (dB)	2.00	
Net path loss (dB)	66.05	66.05
Radio model	FibeAir 1528HP L6GHz	FibeAir 1528HP L6GHz
TX power (watts)	0.79	0.79
TX power (dBm)	29.00	29.00
EIRP (dBm)	69.50	69.50
Emission designator	28M0D7W	28M0D7W
RX threshold criteria	BER 10-6	BER 10-6
RX threshold level (dBm)	-70.00	-70.00
Maximum receive signal (dBm)	-20.00	-20.00
RX signal (dBm)	-37.05	-37.05
Thermal fade margin (dB)	32.95	32.95
Dispersive fade margin (dB)	52.00	52.00
Dispersive fade occurrence factor	0.00	
Effective fade margin (dB)	32.95	32.95
Geoclimatic factor	7.04E-07	
Path inclination (mr)	20.39	
Fade occurrence factor (Po)	1.46E-03	
Average annual temperature (°F)	65.30	
Worst month - multipath (%)	99.99993	99.99993
(sec)	1.95	1.95
Annual - multipath (%)	99.99998	99.99998
(sec)	7.64	7.64
(% - sec)	99.99995 - 15.28	

Thu, Apr 26 2007
Kitt Peak-Tucson.pl4
Reliability Method - ITU-R P.530-7/8

Preliminary Path Profile from Sells to Health Complex

Elevation (ft)

2420

2410

2400

2390

2380

2370

2360

2350

2340

0   0.1   0.2   0.3   0.4   0.5   0.6   0.7   0.8

Path length (0.86 mi)

Sells	Frequency (MHz) = 5800.0	HC
Latitude 31 54 53.51 N	K = 1.00, 0.60	Latitude 31 55 16.74 N
Longitude 111 52 55.41 W	%F1 = 100.00, 60.00	Longitude 111 53 40.47 W
Azimuth 301.15°		Azimuth 121.15°
Elevation 2365 ft ASL		Elevation 2346 ft ASL
Antenna CL 48.5 ft AGL	Preliminary Path Profile	Antenna CL 48.9 ft AGL

	Apr 26 07	

Appendix B

Tucson Area Indian Health Service's Documentation and Budget Summary

Tucson Area IHS

I. Contact Information

      A. Tucson Area Indian Health Service
         Wesley Old Coyote, CIO-DIST
         7900 South J. Stock Road
         Tucson, AZ 85746
         (520) 295-2414

II. Scope of Work

The telehealth network build-out will provide high availability communications links into rural health care centers throughout the Tohono O'odham nation and Southern Arizona communities. This telemedicine network will enhance and augment capacity to support digital imaging data transmission and large data files, as well as provide alternate pathways for data transfer. By connecting various rural healthcare facilities and their providers, the telehealth network will support a broad spectrum of telemedicine applications that serve rural patients and their providers and address disparities in access to critical healthcare needs.

Designed as a two-year project, phase 1 will incorporate the network design, modeling and initial deployment to enhance the area networks and connections to I2 and NLR, which in turn will establish the basic infrastructure for the telehealth network. Based on the ongoing evaluation, modeling and design, phase 2 will be concentrated on the deployment and inter-connectivity to external infrastructure (i.e. Arizona Telemedicine Program, Carondalet Health Network) and provide access to Internet 2 and NLR infrastructure.

This initiative will be designed to serve as a model for developing a sustainable integrated state-wide and regional telehealth network that supports and expands rural healthcare services while offering an immediate and efficient access network in the event of a state, regional or national emergency.

The project goal is to develop and implement a high availability Tucson regional Telehealth network within two years that will achieve the following outcomes:

- Connection of 95% of the Tucson Area providers, who will be able to actively share electronic health information with Tucson Area IHS facilities;

- Improved access to health care resources, quality of care and quality transparency by providing timely health information to providers and beneficiaries;

- Improved coordination of care for chronic diseases and increase preventive interventions;

- Improved coordination between behavioral health and physical health services which will reduce medication errors/abuse and increase case management effectiveness;

- Reduction in medical costs associated with prescription errors, diagnostic lab/radiology test redundancy, unnecessary emergency room utilization and medical errors;

- Implement open source tools to meet technical standards common to web technologies and internet connectivity.

Previously served as the CIO of the Navajo Area IHS and Director of Information Resource Management at the Phoenix Area IHS, worked collaboratively with hospital and health care center staffs in developing Telehealth network infrastructure in support of connectivity to the Arizona Telemedicine Network.

Provided technical and administrative support for infrastructure development for telemedicine clinical services, distance learning, videoconferencing and modalities to include; radiology, dermatology, retinal screening, cardiology, and tele-mental health.

Provide technical and administrative oversight of current telehealth infrastructure and future FCC Rural Health Care Pilot Program for the Tucson Area IHS. Previous experience in working with the USDA's Universal Service Administration in support of the Navajo, Phoenix, and Tucson Areas infrastructure expansion and development.

Tucson area network will be 100% self-sustaining. I2 connectivity along with local circuit access will continue to be funded and supported beyond the two-year pilot period. Along with the existing Universal Service funded circuits, the Pilot Program establishes funding support for Internet2 access that would otherwise be

extremely costly IHS Areas and facilities. The Tucson Area IHS will monitor the project and access improvement for enhanced access to health care resources to IHS and Tribal facilities.

Tucson Area IHS

- Tucson Area works with:

1. Tohono O'odham Nation (TON)

2. Pascua Yaqui Tribe (PYT)

   Guadalupe community
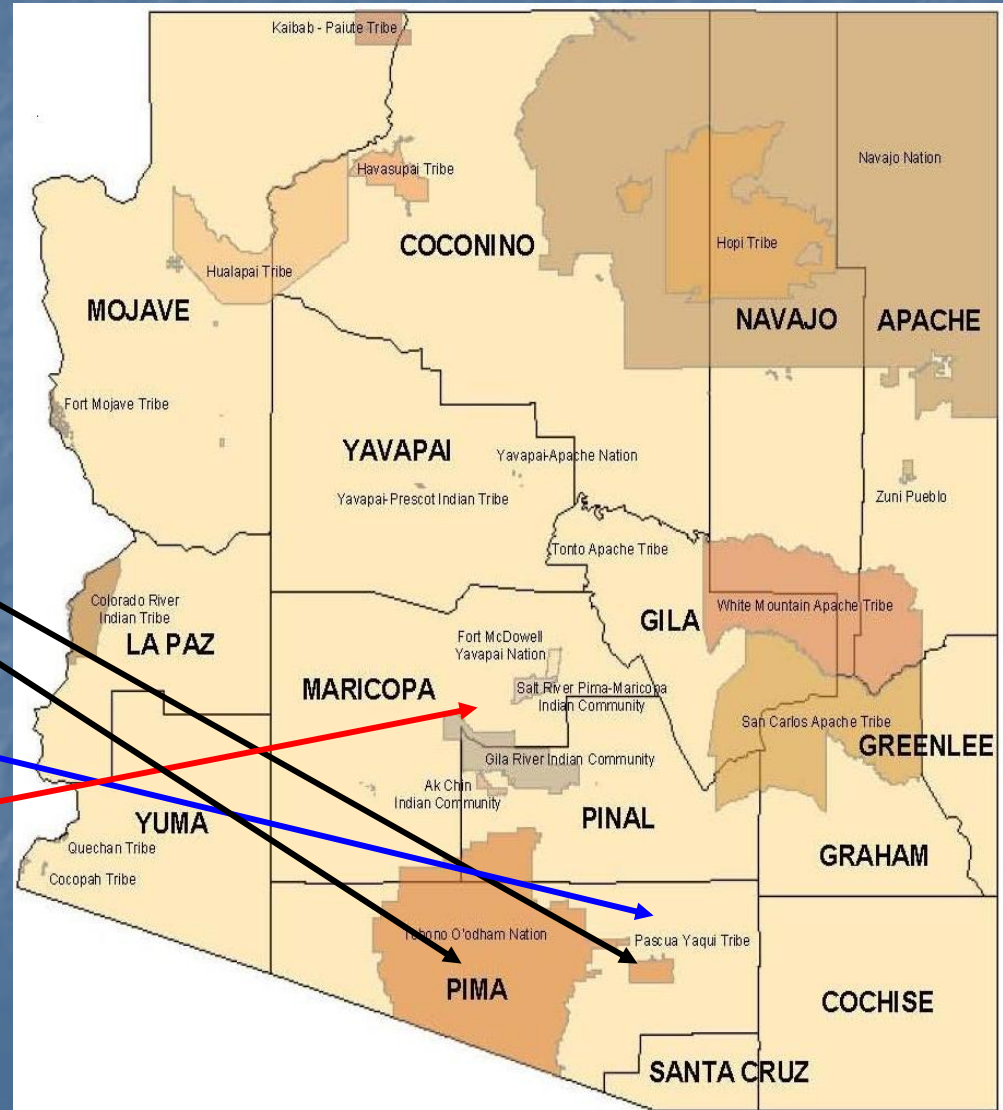
Sells Service Unit

- Health care services for the Tohono O'odham Nation is centered in Sells, AZ, with the Sells Indian Hospital and with health centers located in the reservation communities of Santa Rosa and San Xavier.   San Simon Health Center on the western end of the reservation is anticipated to be operational in FY07. Health care services within the Sells Service Unit is a combined effort of IHS and the TON Health Department, providing a comprehensive health program of inpatient services, ambulatory care, and community health/preventive services.

- The Pascua Yaqui Service Unit is jointly managed by IHS and the PYT. Services are rendered directly and indirectly through a non-traditional system of subcontracts.

Tucson Area
Tohono O'odham Nation

Population: 28,000 - approx. 11,000 live on the main reservation*

- Four reservations – Tohono O'odham, San Xavier, Florence Village & Gila Bend
- Total land base 2.85 million acres (larger than the state of Connecticut)
- Encompassing three counties (Pima, Pinal and Maricopa)

US Census 2000
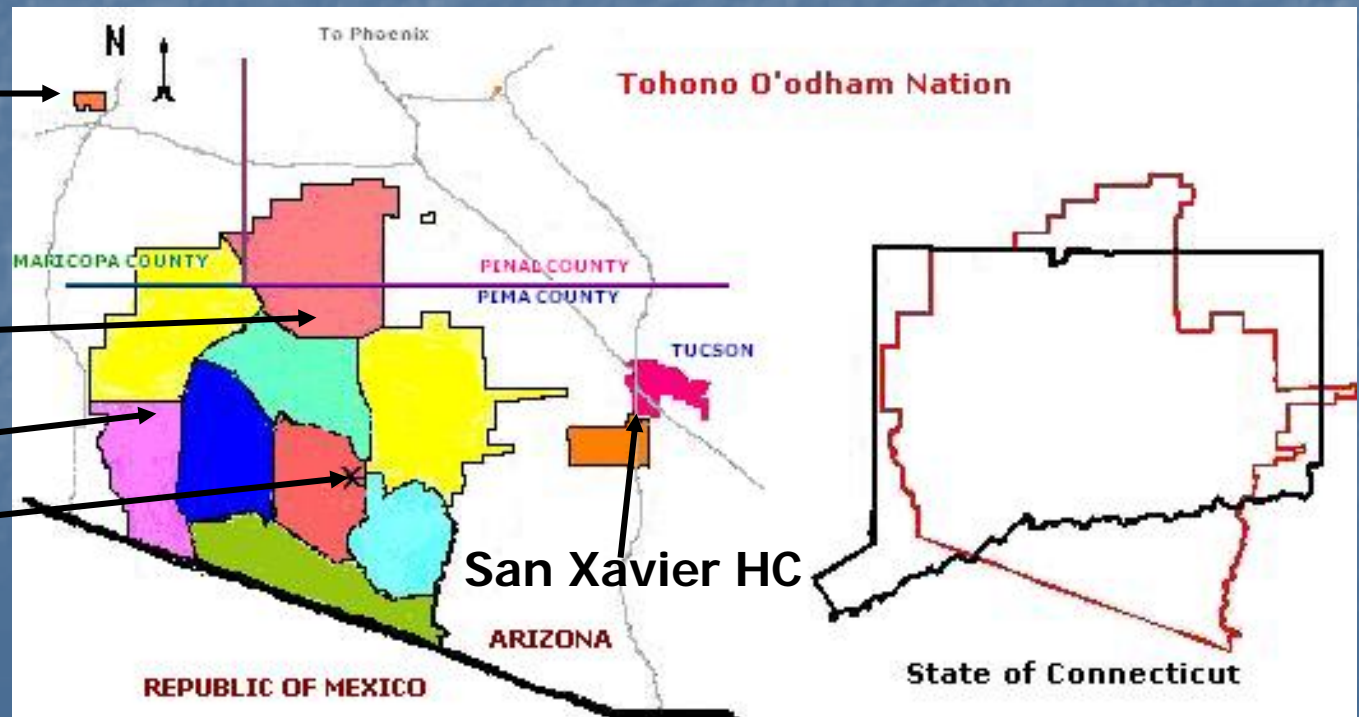
Tucson Indian Center

- Mission is to provide self-sufficiency for the urban and Pima County Indian population by providing..... education, training, employment, health, nutrition, counseling, housing, advocacy and referral services.

- Population*: 15,000 plus, ~3% of American Indian and Alaska Native total population. Among top 15 largest places in total AI/AN population

- Five most significant health problems: Alcohol/substance use, diabetes, domestic violence, elder health and maternal child health.

Photo courtesy of TIC

**Located in heart of downtown Tucson
97 E. Congress**

* US Census 2000

Tuccon Area Indian Health Service Costs

Organization Name	Tucson Area Indian Health Service			
Budget Category	**Description**	**Year 1**	**Year 2**	**Total**
Hardware	Implement Microwave systems for Westside and Santa Rosa Health Care Centers	$142,000	$237,000	$379,000
				$0
				$0
	Total Hardware Costs	$142,000	$237,000	$379,000
Software	No software			$0
				$0
				$0
	Total Software Costs	$0	$0	$0
Connectivity	Secure and Dedicated connectivity to Sells Service Unit hospital for Microwave systems	$37,000	$48,000	$85,000
				$0
				$0
	Total Connectivity Costs	$37,000	$48,000	$85,000
Network Design	Contract for Microwave design and interconnectivity to external physical infrastructure	$37,500		$37,500
				$0
				$0
	Total Network Design Costs	$37,500	$0	$37,500
Network Deployment				$0
				$0
				$0
	Total Network Deployment Costs	$0	$0	$0
Other				$0
				$0
				$0
	Total Other Costs	$0	$0	$0
	Total All Cost Categories	$216,500	$285,000	$501,500

Tucson Area IHS Matching Funds for FCC Order

Organization Name

Matching Funds Category	Description	Year 1	Year 2	Total
Network Hardware		$21,300	$35,550	$56,850
				$0
				$0
	Total Hardware Matching Funds	$21,300	$35,550	$56,850
Software				$0
				$0
				$0
	Total Software Matching Funds	$0	$0	$0
Connectivity		$5,550	$7,200	$12,750
				$0
				$0
	Total Connectivity Matching Funds	$5,550	$7,200	$12,750
Network Design		$5,625		$5,625
				$0
				$0
	Total Network Design Matching Funds	$5,625	$0	$5,625
Network Deployment				$0
				$0
				$0
	Total Network Deployment Matching Funds	$0	$0	$0
Other				$0
				$0
				$0
	Total Other Matching Funds	$0	$0	$0
	Total All Matching Funds Categories	$32,475	$42,750	$75,225

Appendix C

Arizona Telemedicine Program
Network of Network

ARIZONA TELEMEDICINE NETWORK
Current and Pending WAN Connections as of October 2006

Node Color Legend
- 🔴 Arizona Telemedicine Program Site
- 🟡 Arizona Department of Corrections or Affiliate
- ⚫ Pima County Institutional Health
- 🟠 Arizona Department of Health Services
- 🔴 Educational Site
- 🔵 Navajo Area Indian Health Service
- ☁ Affiliate Network with # of locations

AZ | NM

NAIHS Inscription House Health Center
NAIHS Kayenta Health Center
Tonalea Chapter House
NAIHS Tsaile Health Center
NAIHS Chinle Hospital
Tuba City Regional Health Care Corp
Tuba City High School
Grey Hills High School
NAIHS Pinon Health Station
NAIHS Ft Defiance Indian Hospital
Cameron Chapter House
Sage Memorial Hospital
Native American Cancer Research Partnership - NAU
NAIHS Navajo Area Office
NAIHS Northern Navajo Medical Center
NAIHS Tohatchi Health Center
NAIHS Crown-point Hosp.
NAIHS Gallup Indian Medical Center

Arizona Regional Behavioral Health Authority **59**

Northern Arizona Healthcare **4**

Kingman Regional Medical Center

Flagstaff

NAU College of Health Professions

Winslow Health Center

ASPC Winslow

Yavapai County Health Department **2**

Yavapai College

Banner Health **1**

Phoenix

Havasu Regional Medical Cetner

White Mountain Regional Medical Ctr

T-Health
St Joseph's Hosp. & Med. Ctr + ADHS-CRS
UA COM Phoenix
Scottsdale Healthcare
Payson Regional Medical Center

ASPC Perryville

Maricopa Medical Center

AZ DOC Inmate Health Services Central Office

Arizona Department of Juvenile Corrections **6**

AZ DOC Director's Office

Phoenix Area Indian Health Service **20**

ADHS Office for Children with Special Health Care Needs (CRS)

Maricopa Correctional Health **4**

Desert Vista Behavioral Health Center
ASPC Eyman
ASPC Florence

Gila Health Resources Clinic

Yuma County Health Department

ASPC Lewis

Arizona Foundation for the Eye / St Lukes Medical Center

Lowell Elementary School

Cobre Valley Community Hospital
Carondelet St. Joseph's Hospital
Tucson Med. Ctr - Children's Clinics ADHS-CRS
ASPC Tucson
ASPC Safford

Healthwest Yuma PET Center

Yuma Regional Med. Center + ADHS-CRS
ASPC Yuma

Urological Associates of Southern Arizona PC

University Medical Center

UA AHSC

Tucson

Southwest PET Institute

Native American Cancer Research Partnership - UA

University Physicians Healthcare **5**

Carondelet St. Mary's Hospital
St. Elizabeth of Hungary Clinic

Ajo Jail
Adult Detention Center
Juvenile Probation Center
Sopori Elementary School

Kindred Hospital

Tucson Heart Hospital

Pima County Health Department

Graham County Health Department

ASPC Douglas

UA RHO Mobile Health Program
Carondelet Holy Cross Hospital

Sierra Vista Regional Health Center

Mariposa Community Health Center

Cochise County Health Department
Copper Queen Hospital
Southeast Arizona Medical Center

Map is not to scale and is not geographically accurate due to limited space

Legend (also see Node Color Legend)

- ▉ Regional Network Access Point
- ⬤ Active ATP Member Site (see color code above describing multi-site members)
- △ Pending or Planned site (see color code)
- —— Active Circuit
- - - - Pending or Planned circuit
- —— DS1 (T1) single or multiple
- —— DS3 (T3)
- ⚡ Wireless
- ⚡ VPN
- ⚡ Modem

For additional information or questions please visit the Arizona Telemedicine Program Network Web Site
http://www.telemedicine.arizona.edu/

or contact:
Mike Holcomb   holcomb@email.arizona.edu
Associate Director, Network Architecture
Arizona Telemedicine Program
University of Arizona
Office:520-626-4496   FAX 520-626-1027

Arizona Telemedicine Program
Network of Networks

April, 2007

Arizona Telemedicine Program Hospital/Clinic Sites	59
Arizona County Health Departments	6
Arizona TeleBehavioral Health Net Sites	50
Arizona Correctional Telemedicine Sites	24
Arizona School Telehealth Sites	4
Health Sciences Education & Research Sites	7
TOTAL Arizona Sites	**150**
Western Region Hospital/Clinic Sites	9
International Sites	9
All Sites Total	**168**

The Arizona Telemedicine Program Network is a secure private network comprised of dedicated T3 and T1 telecommunications lines. All sites are connected via dedicated T1 circuit to the Arizona Telemedicine Program Network. (Exceptions: Verde Valley Medical Center is connected via the Northern Arizona Healthcare WAN to Flagstaff Medical Center; Cobre Valley Community Hospital, Healthwest Yuma PET Center, and St. Luke's Medical Center are connected via Internet/VPN, Kingman Regional Medical Center is connected via modem) Circuits to NAIHS Ft. Defiance, NAIHS Winslow Health Center, and to Tuba City Indian Medical Center are T3. All connections to Phoenix Area Indian Health Services (PAIHS) sites are made through an interconnection to the PAIHS network in Phoenix.

Dial-up & Internet Protocol (IP) Videoconferencing - The Arizona Telemedicine Program Network has a dial-up & IP videoconference capabilities to reach other hospitals and healthcare organizations with this capability, e.g., the Shriners Intermountain Hospital in Salt Lake City uses this capability to conduct regular telemedicine clinics with patients at the University of Arizona in Tucson.

Hospital/Clinic Sites
ARIZONA

							Video	Data
1	ADHS-CRS	150 N. 18th Ave.	Phoenix	AZ	85017	Maricopa	X	
2	Arizona Foundation for the Eye	1800 E. Van Buren St.	Phoenix	AZ	85006	Maricopa		X
3	Benson Hospital	450 S Ocotillo	Benson	AZ	85602	Cochise	X	X
4	Canyonlands Community Health Care	827 Vista Avenue	Page	AZ	86040	Coconino		X
5	Carondelet St Joseph' Hospital - The Villa	6627 E Carondelet Dr.	Tucson	AZ	85711	Pima	X	X
6	Carondelet St Mary's Hospital	1601 W. St. Mary's Rd.	Tucson	AZ	85745	Pima	X	X
7	Carondelet Holy Cross Hospital	1171 W Target Range Rd	Nogales	AZ	85621	Santa Cruz	X	X
8	Cobre Valley Community Hospital	5880 South Hospital Drive	Globe	AZ	85501	Gila		X
9	Copper Queen Hospital	101 Cole Dr	Bisbee	AZ	85603	Cochise	X	X
10	Flagstaff Medical Center (ADHS-CRS & NACP)	1200 N. Beaver St.	Flagstaff	AZ	86001	Coconino	X	X
11	Gila Health Resources Clinic	401 Burro Alley	Morenci	AZ	85543	Greenlee	X	X
12	Good Samaritan Regional Medical Ctr	1111 E. McDowell Road	Phoenix	AZ	85006	Maricopa	X	X
13	Healthwest Yuma PET Center	1951 W. 25th St.	Yuma	AZ	85364	Yuma		X
14	Kindred Hospital	355 N. Wilmot Road	Tucson	AZ	85711	Pima		X
15	Havasu Regional Medical Center	101 Civic Center Lane	Lake Havasu City	AZ	86403	Mohave		X
16	Kingman Regional Medical Center	3269 Stockton Hill Road	Kingman	AZ	86401	Mojave		X
17	Maricopa Medical Center	2601 E. Roosevelt	Phoenix	AZ	85016	Maricopa	X	X
18	Mariposa Community Health Center	1852 N. Mastick Way	Nogales	AZ	85621	Santa Cruz	X	X
19	NAIHS Area Office	P.O. Box 9020	Window Rock	AZ	86515	Apache	X	X
20	NAIHS Chinle	P.O. Box Drawer PH	Chinle	AZ	86503	Apache	X	X
21	NAIHS Ft. Defiance	P.O. Box 649	Ft. Defiance	AZ	86504	Apache	X	X
22	NAIHS Inscription House	P.O. Box 7397	Shonto	AZ	86045	Coconino	X	X
23	NAIHS Kayenta Service Unit	P.O. Box 368	Kayenta	AZ	86033	Navajo	X	X
24	NAIHS Pinon Health Station	264 Main Street	Pinon	AZ	86510	Navajo		X
25	NAIHS Tsaile	P.O. Box 467	Tsaile	AZ	86557	Apache	X	X
26	NAIHS Winslow Health Center	P.O. Drawer 40	Winslow	AZ	86047	Navajo	X	X
27	North Country Community Health Center	2500 N Rose Street	Flagstaff	AZ	86004	Coconino		X
28	PAIHS Cibecue Health Center	PO Box 37	Cibecue	AZ	85911	Navajo		X
29	PAIHS Desert Visions Reg. Treatmnt Ctr.	198 S. Skill Center Rd.	Sacaton	AZ	85247	Pinal	X	
30	PAIHS Fort Yuma PHS Indian Hospital	P.O. Box 1368	Yuma	AZ	85366	Yuma	X	
31	PAIHS Gila Crossing Health Center	P.O. Box 380	Laveen	AZ	85339	Maricopa	X	X
32	PAIHS-Hopi Healthcare Center	Milepost 388, Highway 264	Polacca	AZ	86042	Navajo	X	X
33	PAIHS Phoenix Area Office	40 N. Central Ave. #605	Phoenix	AZ	85004	Maricopa	X	X
34	PAIHS Parker	Rt. 1, Box 12	Parker	AZ	85344	La Paz	X	X
35	PAIHS Phoenix Indian Medical Ctr	4212 N. 16th Street	Phoenix	AZ	85016	Maricopa	X	X
36	PAIHS San Carlos	P.O. Box 208	San Carlos	AZ	85550	Gila	X	X

37	PAIHS Supai Indian Health Station	Main Street	Supai	AZ	86435	Coconino		X
38	PAIHS Whiteriver Service Unit	State Rte 73, Milepost 342	Whiteriver	AZ	85941	Navajo	X	X
39	Payson Regional Medical Center	807 Ponderosa	Payson	AZ	85541	Gila	X	X
40	Sage Memorial Hospital	PO Box 457, Route 264	Ganado	AZ	86505	Apache	X	X
41	Scottsdale Healthcare	9003 E. Shea Boulevard	Scottsdale	AZ	85260	Maricopa	X	
42	Sierra Vista Regional Health Center	300 El Camino Real	Sierra Vista	AZ	85635	Cochise	X	X
43	Southeast Arizona Medical Center	2174 Oak Ave	Douglas	AZ	85607	Cochise	X	X
44	Southwest PET Institute	3503 N. Campbell Ave.	Tucson	AZ	85719	Pima		X
45	St Elizabeth of Hungary Clinic	140 W. Speedway Blvd.	Tucson	AZ	85705	Pima	X	X
46	St. Joseph's Hosp. & Med. Ctr & ADHS-CRS	350 W. Thomas Rd.	Phoenix	AZ	85013	Maricopa	X	X
47	Tuba City Regional Health Care Corp	167 N. Main Sreet	Tuba City	AZ	86045	Coconino	X	X
48	Tuba City – Cameron Chapter House		Cameron	AZ	86020	Coconino	X	X
49	Tuba City – Tonalea Chapter House		Tonalea	AZ	86044	Coconino	X	X
50	Tucson Heart Hospital	4888 N. Stone Ave.	Tucson	AZ	85704	Pima		X
51	UA COM RHO Mobile Health Program - Amado	28720 S Nogales Hwy	Amado	AZ	85645	Pima	X	X
52	Tucson Med. Ctr – Children's Clinics ADHS-CRS	2600 N. Wyatt Dr.	Tucson	AZ	85712	Pima	X	
53	University Medical Center	1501 N. Campbell Avenue	Tucson	AZ	85724	Pima	X	X
54	UPH Alvernon Clinic	707 N. Alvernon Way	Tucson	AZ	85711	Pima		X
55	UPH Hospital at Kino	2800 E. Ajo Way	Tucson	AZ	85713	Pima	X	X
56	Urological Associates Of Southern Arizona PC	6325 E Tanque Verde Rd	Tucson	AZ	85715	Pima		X
57	Verde Valley Medical Center	269 S. Candy Lane	Cottonwood	AZ	86326	Yavapai	X	X
58	White Mountain Regional Medical Ctr	118 S. Mountain Avenue	Springerville	AZ	85938	Apache	X	X
59	Yuma Regional Med. Center ADHS-CRS	2400 Avenue A	Yuma	AZ	85364	Yuma	X	

ADHS-CRS – Arizona Department of Health Services Children's Rehabilitative Services   **NACP** – Native American Cardiology Program

NAIHS – Navajo Area Indian Health Service   **PAIHS** – Phoenix Area Indian Health Service   **UPH** – University Physicians Healthcare

Arizona County Health Departments

							Video	Data
1	Cochise County Health Department	1415 Melody Lane, Bldg A	Bisbee	AZ	85603	Cochise	X	
2	Graham County Health Department	921 Thatcher Blvd.	Safford	AZ	85546	Graham	X	
3	Pima County Health Department	130 W Congress B Level	Tucson	AZ	85701	Pima	X	
4	Yavapai County Community Health Services	1090 Commerce Dr	Prescott	AZ	86305	Yavapai	X	
5	Yavapai County Community Health Services	10 S. Sixth St	Cottonwood	AZ	86326	Yavapai	X	
6	Yuma County Health Department	2200 W 28th Street	Yuma	AZ	85364	Yuma	X	

Arizona TeleBehavioral Health Net Telehealth Sites

The following sites comprise the **Arizona TeleBehavioral Health Network** and can be linked by video to any video sites on the **Arizona Telemedicine Program** network through an interconnection between the two networks at the Northern Arizona Behavioral Health Authority (NARBHA) administrative office in Flagstaff. Additional telebehavioral health sites are located at the University of Arizona and the Arizona Department of Corrections.

	NARBHA-Northern Arizona Behavioral Health Authority						Video	Data
1	NARBHA	1300 S. Yale Street	Flagstaff	AZ	86004	Coconino	X	
2	Apache Behavioral Health Services	249 W. Ponderosa Dr.	Whiteriver	AZ	85941	Navajo	X	
3	Community Behavioral Health Svs	463 South Lake Powell Blvd.	Page	AZ	86040	Coconino	X	
4	Community Behavioral Health Svs	850 E. Highway 89	Fredonia	AZ	86022	Coconino	X	
5	Community Counseling Centers	211 E. Third Street	Winslow	AZ	86047	Navajo	X	
6	Community Counseling Centers	105 North Fifth Avenue	Holbrook	AZ	86025	Navajo	X	
7	Community Counseling Centers	2550 Show Low Lake Rd	Show Low	AZ	85901	Navajo	X	
8	Little Colorado Behav. Health Ctrs	470 W. Cleveland	St. Johns	AZ	85936	Apache	X	
9	Little Colorado Behav. Health Ctrs	50 North Hopi	Springerville	AZ	85936	Apache	X	
10	Mohave Mental Health Clinics	1743 Sycamore Ave.	Kingman	AZ	86401	Mohave	X	
11	Mohave Mental Health Clinics	3505 Western Ave.	Kingman	AZ	86401	Mohave	X	
12	Mohave Mental Health Clinics	2187 Swanson	Lake Havasu City	AZ	86403	Mohave	X	
13	Mohave Mental Health Clinics	1145 Marina Blvd.	Bullhead City	AZ	86442	Mohave	X	
14	Verde Valley Guidance Clinic	8 E. Cottonwood Street	Cottonwood	AZ	86326	Yavapai	X	
15	West Yavapai Guidance Clinic	642 Dameron Drive	Prescott	AZ	86301	Yavapai	X	
16	West Yavapai Guidance Clinic	3343 N. Windsong	Prescott Valley	AZ	86314	Yavapai	X	
17	Ariz. Council of Human Service Providers	2100 N. Central Avenue	Phoenix	AZ	85004	Maricopa	X	
18	Arizona State Hospital (ASH)	2500 E. Van Buren	Phoenix	AZ	85008	Maricopa	X	
19	Mingus Center	636 N. Main St.	Cottonwood	AZ	86326	Yavapai	X	
20	Mingus Center	3161 N. Windsong	Prescott Valley	AZ	86314	Yavapai	X	
	Cenpatico Behavioral Health of AZ							
21	Cenpatico Behavioral Health of AZ	1501 W. Fountainhead, Ste 295	Tempe	AZ	85282	Maricopa	X	
22	Cenpatico Behavioral Health of AZ		Florence	AZ		Pinal	X	
23	Cenpatico Behavioral Health of AZ		Yuma	AZ		Yuma	X	
24	Community Intervention Associates (CIA)		Yuma	AZ		Yuma	X	
25	SW BH Rim Guidance Center	404 W. Aero Drive	Payson	AZ	85541	Gila	X	
26	SW BH Rim Guidance Center		Phoenix	AZ		Maricopa	X	
27	EXCEL Child Services	3250 E. 40th St.	Yuma	AZ	85364	Yuma	X	

CPSA-Community Partnership of Southern Arizona

28	Community Partnership of So. Arizona	4575 E. Broadway	Tucson	AZ	85711	Pima	X	
29	CPSA Training Center	2502 N. Dodge	Tucson	AZ	85716	Pima	X	
30	CPSA Country Club	600 S. Country Club	Tucson	AZ	85711	Pima	X	
31	Casa de Esperanza	780 S. Park Centre Ave.	Green Valley	AZ	85614	Pima	X	
32	CODAC	3100 N. 1st Ave.	Tucson	AZ	85719	Pima	X	
33	COPE Behavioral Services, Inc.	101 S. Stone	Tucson	AZ	85701	Pima	X	
34	Intermountain Ctrs for Human Dev.	7820 E. Broadway, Suite 100	Tucson	AZ	85710	Pima	X	
35	Intermountain Ctrs for Human Dev		Sells	AZ		Pima	X	
36	La Frontera	502 W. 29th St.	Tucson	AZ	85713	Pima	X	
37	Marana Health Clinic	13644 N. Sandario Rd.	Marana	AZ	85653	Pima	X	
38	Providence of Arizona, Inc.	620 N. Craycroft	Tucson	AZ	85711	Pima	X	
39	Pantano Behavioral Health Services	5055 E. Broadway, C-104	Tucson	AZ	85711	Pima	X	
40	CPSA-Sierra Vista	999 E. Fry Blvd., Ste 109	Sierra Vista	AZ	85635	Cochise	X	
41	SEABHS-Sierra Vista	185 S. Moorman	Sierra Vista	AZ	85635	Cochise	X	
42	SEABHS-Benson Outpatient	590 S. Ocotillo Ave.	Benson	AZ	85602	Cochise	X	
43	SEABHS-Benson Administrative	611 W. Union St.	Benson	AZ	85602	Cochise	X	
44	Southeastern AZ Psych Health Facility	470 S. Ocotillo Ave.	Benson	AZ	85602	Cochise	X	
45	SEABHS-Nogales	32 Blvd del Rey David	Nogales	AZ	85621	Santa Cruz	X	
46	SEABHS-Douglas	1701 N. Douglas Avenue	Douglas	AZ	85607	Cochise	X	
47	SEABHS-Safford	680 Eighth Street	Safford	AZ	85546	Graham	X	
48	SEABHS-Bisbee	214 Bisbee Rd.	Bisbee	AZ	85603	Cochise	X	
49	So. Arizona Mental Health Corp (SAMHP)	2502 N. Dodge, Suite 190	Tucson	AZ	85716	Pima	X	
50	**ADHS-Div. of Behavioral Health Svcs**	150 N. 18th Ave., Suite 200	Phoenix	AZ	85007	Maricopa	X	

Arizona Correctional Telemedicine Sites

The Arizona Telemedicine Program Network provides network connections to Arizona Department of Corrections sites, Arizona Department of Juvenile Corrections Sites, Maricopa County Correctional Health Services sites, and Pima County jail sites.

	Arizona Department of Corrections						Video	Data
1	AZ DOC Director's Office and ADC Inmate Health Services Central Office	1601 W. Jefferson St.	Phoenix	AZ	85007	Maricopa	X	X
2	ASPC Douglas	PO Drawer 3867	Douglas	AZ	85608	Cochise	X	X
3	ASPC Eyman	SMUII, 4374 E. Butte	Florence	AZ	85732	Pinal	X	X
4	ASPC Florence	P.O. Box 3867	Florence	AZ	85732	Pinal	X	X
5	ASPC Lewis	26700 S. Hwy 85, PO Box 70	Buckeye	AZ	85326	Maricopa	X	X
6	ASPC Perryville	PO Box 3000	Goodyear	AZ	85336	Maricopa	X	X
7	ASPC Safford	896 S. Cook Road	Safford	AZ	85548	Graham	X	X
8	ASPC Tucson	10000 S. Wilmot Rd.	Tucson	AZ	85734	Pima	X	X
9	ASPC Yuma	7125 E. Juan Sanchez Blvd.	San Luis	AZ	85349	Yuma	X	X
10	ASPC Winslow	2100 South Highway 87	Winslow	AZ	86047	Navajo	X	X

	Arizona Department of Juvenile Corrections						Video	Data
1	ADJC Central Ofice	1624 W. Adams	Phoenix	AZ	85007	Maricopa	X	X
2	Adobe Mountain Secure Care Facility	2800 West Pinnacle Peak Rd	Phoenix	AZ	85027	Maricopa	X	X
3	Black Canyon Secure Care Facility	24601 North 29th Ave	Phoenix	AZ	85027	Maricopa	X	X
4	SW Reg. Juv. Corrections Complex	26701 South State Route 85	Buckeye	AZ	85326	Maricopa	X	X
5	Catalina Mtn Secure Care Facility	14,500 North Oracle Road	Tucson	AZ	85738	Pima	X	X
6	Tucson Parole Office	151 S. Tucson Blvd	Tucson	AZ	85716	Pima	X	X

	Maricopa County Correctional Health Services						Video	Data
1	Administrative Offices	111 W. Monroe St., Suite 900	Phoenix	AZ	85003	Maricopa	X	X
2	Avondale Booking Station	920 E. Van Buren	Avondale	AZ	85323	Maricopa	X	X
3	Madison Jail Intake	225 W. Madison	Phoenix	AZ	85003	Maricopa	X	X
4	Mesa Booking Station	1840 S. Lewis St.	Mesa	AZ	85210	Maricopa	X	X
5	Durango Jail	322 W. Gibson Lane	Phoenix	AZ	85009	Maricopa	X	X
6	Towers Jail	3127 W. Gibson Lane	Phoenix	AZ	85009	Maricopa	X	X

	Pima County Institutional Health*						Video	Data
1	Adult Detention Center	1300 W. Silverlake Rd.	Tucson	AZ	85713	Pima	X	X
2	Ajo Jail	1249 Ajo Well Rd.	Ajo	AZ	85321	Pima	X	X

*includes UPH Hospital at Kino (see Hospital/Clinic site listing)

Arizona School Telehealth Sites

The **Arizona Telemedicine Program** Network provides network connections to the following schools:

							Video	Data
1	Grey Hills High School	Warrior Drive	Tuba City	AZ	86045	Coconino	X	
2	Lowell Elementary School	1121 S. Third Ave.	Phoenix	AZ	85003	Maricopa	X	X
3	Sopori Elementary School	5000 W. Arivaca Rd.	Amado	AZ	85645	Pima	X	X
4	Tuba City High School	Warrior Drive	Tuba City	AZ	86045	Coconino	X	

Health Sciences Education and Research Sites

From it's location at the University of Arizona in Tucson, the Arizona Telemedicine Program originates videoconferencing throughout the facilities of the Colleges of Medicine, Nursing, Pharmacy and Public Health. Many videoconferences are available through streaming video at http://video.biocom.arizona.edu/video/. Additionally, the Arizona Telemedicine Program connects to the following health sciences education and research sites:

							Video	Data
1	Arizona Simulation Technology and Education Center	1501 N Campbell Room 4307	Tucson	AZ	85719	Pima	X	X
2	NAU College of Health Professions	Col of Health Prof Room 229	Flagstaff	AZ	86011	Coconino	X	
3	Native American Cancer Research Partnership - UA	1527 E. Mabel Street	Tucson	AZ	85721	Pima	X	
4	Native American Cancer Research Partnership - NAU	Bldg 3	Flagstaff	AZ	86011	Coconino	X	
5	T-Health Institute	600 E Van Buren Bldg 2	Phoenix	AZ	85004	Maricopa	X	X
6	University of Arizona College of Medicine Phoenix	550, 600, 650 E Van Buren	Phoenix	AZ	85004	Maricopa	X	X
7	Yavapai College	1100 E Sheldon St	Prescott	AZ	86301	Yavapai	X	

Western Region
Hospital/Clinic Sites

Nevada

							Video	Data
1	PAIHS Southern Bands Health Center	515 Shoshone Circle	Elko	NV	89801	Elko	X	
2	PAIHS Schurz Service Unit	Drawer A	Schurz	NV	89427	Mineral	X	

New Mexico

							Video	Data
1	NAIHS Crownpoint Hospital	P.O.Box 358	Crownpoint	NM	87313	McKinley	X	X
2	NAIHS Dzilth-Na-O-Dith-Hle Health Center	6 Road 7586	Bloomfield	NM	87413	San Juan		X
3	NAIHS Gallup Indian Medical Center	P.O. Box 1137	Gallup	NM	87301	McKinley		X
4	NAIHS Northern Navajo Medical Ctr	P.O. Box 160	Shiprock	NM	87420	San Juan	X	X
5	NAIHS Tohatchi Health Center		Tohatchi	NM	87325	McKinley		X

Utah

							Video	Data
1	PAIHS Ft. Duchesne	P.O. Box 160	Ft. Duchesne	UT	84026	Uintah		X
2	Intermountain Shriners Hospital	Fairfax Rd. at Virginia St.	Salt Lake City	UT	84103	Salt Lake	X	

NAIHS – Navajo Area Indian Health Service   **PAIHS** – Phoenix Area Indian Health Service   **UPH** – University Physicians Healthcare

International Sites

Panama

	Institution	City	District	Specialties
1	Royal Center	Panama City	Panama	General
2	Hospitalario Metropolitano de la Caja de Seguro Social	Panama City	Panama	General, Pathology, Radiology
3	Hospital Oncologico (Gorgas)	Panama City	Panama	Pathology, Radiology
4	Caja de Seguro Social Policlinica	Las Tablas	Los Santos	Radiology
5	El Vigia Hospital	Chitre	Herrera	Pathology
6	Caja de Seguro Social	Changuinola	Bocas del Toro	General, Radiology
7	San Felix Hospital	San Felix	Chiriqui	General
8	Puesto de Salud de Cerro Iglesias	Cerro Iglesias	Chiriqui	General
9	Centro de Salud de Hato Juli	Hato Juli	Chiriqui	General

All connections within Panama are currently PSTN (Public Service Telephone Network) except in the Chiriqui district where connections are broadband wireless. Connectivity to the U.S. is via the Internet and ISDN.

Appendix D

Letters of Support

TOHONO O'ODHAM NATION
DEPARTMENT OF HEALTH AND HUMAN SERVICES
P.O. BOX 810 • SELLS, ARIZONA 85634

Office of the Executive Director
(520) 383-6000
FAX: (520) 383-3930

Division of:

Behavioral Health
(520) 383-6165
FAX: (520) 383-5433

Child Welfare
Services
(520) 383-6100
FAX: (520) 383-5373

Community Health
(520) 383-6200
FAX: (520) 383-8806

Family Assistance
(520) 383-6250
FAX: (520) 383-5170

Health Promotion
(520) 383-6240
FAX: (520) 383-4632

Health Transportation
(520) 383-6050
FAX: (520) 383-6065

Senior Services
(520) 383-6075
FAX: (520) 383-4776

Special Needs
(520) 383-6124
FAX: (520) 383-3930

April 26, 2007

Mr. Ben Standifer,
Chief Information Officer
Dept. of Information Technology
Tohono O'odham Nation
P.O. Box 2245
Sells, AZ 85634

Dear Mr. Standifer:

The Department of Health and Human Services is in great need to establish telehealth connections to meet the ever increasing need for services for our Nation's members. The Department's Behavioral Health, Community Health, Healthy O'odham Promotion Program, and Senior Services divisions, each of which provides health services will greatly benefit from this project.

The first step, establishing the infrastructure, can be accomplished through the FCC Infrastructure Pilot program, that will provide funding to establish a regional, State, and national network to connect the Nation's departments and programs with telehealth, telemedicine, and emergency preparedness systems.

The Department of Health and Human Services will provide the funding to connect the department's divisions with the main technology backbone. Completion of the pilot program establishing the network will enable the Tohono O'odham Nation's health programs to participate in a wide range of telehealth services, including diabetes assessments and education, behavioral health psychiatric and psychological assessments, community health diagnostics and education, and education for senior services staff members.

We are excited about the possibility of connecting our most rural, underserved members with health care services more effectively through this project.

Sincerely,

Rosemary Lopez for

Christina Gastellum,
Executive Director

Ronald S. Weinstein, M.D.
Director
(520) 626-4785
FAX (520) 626-1027

Richard A. McNeely
Co-Director
(520) 626-7343
FAX (520) 626-2145

May 1, 2007

Mr. Ben Standifer,
Chief Information Officer
Dept. of Information Technology
Tohono O'odham Nation
P.O. Box 2245
Sells, AZ 85634

Dear Mr. Standifer:

The Arizona Telemedicine Program strongly supports the proposed infrastructure development for telemedicine on the Tohono O'odham Nation. We believe that this project will serve an important variety of needs of the Tohono O'odham Nation quite well. In our eleven-year experience of developing the Arizona Telemedicine Program we have become acutely aware of the issues for health care providers in the often remote, medically underserved areas of the state. These range from providing for the continuing education requirements of staff that are prevented by their heavy patient care commitments from taking a day or two to travel to an urban center for a clinical update conference, to being able to receive timely sub-specialty consultation for their patients. The proposed project, through a link to the Arizona Telemedicine Program, will provide the mechanism to help resolve these issues.

The Arizona Telemedicine Program can serve as a provider of continuing health sciences education through the link with the Tohono O'odham Nation. Currently grand rounds from the University of Arizona and educational offerings from other major medical centers in Arizona such as Carondelet St. Joseph's Hospital are available through interactive videoconferencing on the network. These educational sessions include most areas of medicine and include topics relevant to rural health care from the Colleges of Nursing and Public Health. Through a membership in the Arizona Telemedicine Program Network, continuing education credits will be processed at no charge to participants of the Tohono O'odham Nation. Additionally, since 1997 the Arizona Telemedicine Program Network has provided sub-specialty consultation to over 400,000 patients in over fifty different subspecialties. Access to this range of sub-specialty consultations will be readily available to Project members.

In summary, the Arizona Telemedicine Program looks forward to working with the Tohono O'odham Nation in implementing this exciting project.

Sincerely,

Richard A. McNeely
Co-Director

CARONDELET
HEALTH NETWORK
Member of Ascension Health

St. Joseph's Hospital
350 North Wilmot Road
Tucson, AZ 85711-2678

Ben Standifer
Chief Information Officer
Department of Information & Technology
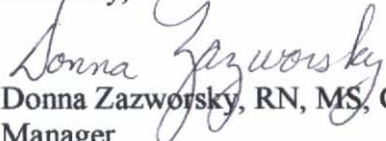PO Box 2425
Sells, AZ 85634

Dear Mr. Standifer:

The Carondelet Health Network strongly supports the proposed infrastructure development for telemedicine on the Tohono O'odham Nation. This project will provide the framework to build more extensive telemedicine programs and services so desperately needed on the Nation. In our eight years of providing telemedicine services to communities in need, CHN will continue to work in partnership with the Tohono O'odham Nation and their other community partners to leverage educational programs and clinical services through grants and established telemedicine reimbursement experience.

Currently, CHN is a corporate member and works closely with the Arizona Telemedicine Network to provide a number of clinical and education programs to rural communities throughout Arizona. We have also worked with Indian Health Services in Phoenix and in Taos to deliver professional diabetes classes. CHN is a member of Ascension Health, the largest Catholic, non-profit health care system the United States. This grant will enable the Tohono O'odham to connect into the telehealth networks of Carondelet and Ascension Health, providing access to a plethora of professional education programs.

In summary, Carondelet Health Network welcomes the new opportunities this project will bring with the Tohono O'odham Nation.

Sincerely,

Donna Zazworsky, RN, MS, CCM, FAAN
Manager
Diabetes Care Centers, Faith Community Nursing and Telemedicine
Carondelet Health Network

April 26, 2007

Ben Standifer, Chief Information Officer
Dept of Information Technology
Tohono O'odham Nation
Box 2425
Sells, AZ 85634

Dear Mr. Standifer,

This serves as the Tucson Area Indian Health Service (TAIHS) letter of commitment to partner with the Tohono O'odham Nation in the proposed FCC Rural Healthcare Pilot program. The project goal is to develop and implement a high availability Southern Arizona regional Telehealth network within two years that will achieve the following outcomes:

- Connection of 95% of the Tucson Area providers, who will be able to actively share electronic health information with Tucson Area IHS facilities;
- Improved access to health care resources, quality of care and quality transparency by providing timely health information to providers and beneficiaries;
- Improved coordination of care for chronic diseases and increase preventive interventions;
- Improved coordination between behavioral health and physical health services which will reduce medication errors/abuse and increase case management effectiveness;
- Reduction in medical costs associated with prescription errors, diagnostic lab/radiology test redundancy, unnecessary emergency room utilization and medical errors;
- Implement open source tools to meet technical standards common to web technologies and internet connectivity.

The TAIHS CIO's previous experience in developing and managing telemedicine programs include: served as the CIO of the Navajo Area IHS and Director of Information Resource Management at the Phoenix Area IHS, worked collaboratively with hospital and health care center staffs in developing Telehealth network infrastructure in support of connectivity to the Arizona Telemedicine Network. Provided technical and administrative support for infrastructure development for telemedicine clinical services, distance learning, videoconferencing and modalities to include; radiology, dermatology, retinal screening, cardiology, and mental health. Provide technical and administrative oversight of current telehealth infrastructure and future FCC Rural Health Care Pilot Program for the Tucson Area IHS. Previous experience in working with the USDA's Universal Service Administration in support of the Navajo, Phoenix, and Tucson Areas infrastructure expansion and development. Tucson area network will be 100% self-sustaining. Internet2 connectivity along with local circuit access will continue to be funded and supported beyond the two-year pilot period. Along with the existing Universal Service funded circuits, the Pilot Program establishes funding support for Internet2 access that would otherwise be extremely costly to TAIHS Area facilities. The Tucson Area IHS will monitor the project and access improvement for enhanced access to health care resources to IHS and Tribal facilities.

The total requested budget for proposed year 1 ($216,500) and potential year 2 ($285,000) is in the amount of $501,500 and includes upgrade microwave design and WAN network equipment in first year, additional microwave and network upgrades second year, microwave and expanded bandwidth connectivity to Westside (San Simon) and Santa Rosa facilities, Westside (San Simon), $142,000 for Microwave installation in first year, $37,000 for connectivity to the Sells hospital the first year, $37,000 for connectivity the second year, Santa Rosa, $112,000 for Microwave installation in second year, $11,000 for connectivity to the Sells hospital in second year, $37,500 for Microwave design for inter-connectivity to Sells hospital in first year. For these items Tucson Area Indian Health Service has also committed to ($32,475) in matching funds for proposed year 1 and ($42,750) for potential year 2 for a total of ($75,225). Tucson Area Indian Health Service will supply the Tohono O'odham Nation with appropriate documentation for backup of the matching funds as they are spent.

I certify that the statements herein are true, complete and accurate to the best of my knowledge, and accept the obligation to comply with FCC's terms and conditions if a grant is awarded as a result of this application. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties.

Thank you,

George W. Bearpaw
Area Director, TAIHS

Fiscal Agent contact information

Marilyn Lomakema
Senior Contracting Officer
7900 South J. Stock Road
Tucson, AZ 85746

TOHONO O'ODHAM NATION
Department of Public Safety
PO Box 837
Sells, AZ 85634
Voice (520) 383-8681
Fax (520) 383-8333

Corrections

Edward Reina, Jr.
Director

Environmental
Protection
Agency

Emergency
Management

Fire Protection

Law Enforcement

Mr. Ben Standifer,
Chief Information Officer
Dept. of Information Technology
Tohono O'odham Nation
P.O. Box 2245
Sells, AZ 85634

April 30, 2007

Solid Waste
Regulatory

Tribal
Employment
Rights

Dear Mr. Standifer:

The Tohono O'odham Nation Department of Public Safety is pleased to collaborate with the network to be established by the FCC Infrastructure Pilot Program. Implementation of a technology "backbone" to enhance connectivity throughout the Tohono O'odham Nation, and with Pima County Health and Safety systems is a critical need.

The Department of Public Safety coordinates with the U.S. Department of Homeland Security to protect the international (Mexican) border, including 70 miles within the Tohono O'odham Nation. In coordination with Pima County we are working to design and implement a bioterrorism response plan, while providing police protection for the Tohono O'odham Nation. This project will fill the need for a second communication system, during an emergency.

The Tohono O'odham Department of Public Safety looks forward to working with you on this important project.

Sincerely,

Edward Reina, Jr., Director
Tohono O'odham Nation
Department of Public Safety

cc. Vivian Juan-Saunders, Chairwoman
    Silvia Parra, Chief Administrative Officer

Office of the Director

Office of Border Health
4400 East Broadway, Suite 300
Tucson, Arizona 85711
(520) 770-3110
(520) 770-3307 FAX

JANET NAPOLITANO,
SUSAN GERARD, DIRECTOR

May 1, 2007

Mr. Ben Standifer,
Chief Information Officer
Dept. of Information Technology
Tohono O'odham Nation
P.O. Box 2245
Sells, AZ 85634

Dear Mr. Standifer:

The Arizona Department of Health Services (ADHS), Office of Border Health (OBH) is in full support of the infrastructure development for telemedicine on the Tohono O'odham Nation. The OBH serves as a liaison between ADHS and the Secretaria de Salud de Sonora (Sonoran Public Health Ministry). The OBH also houses the U.S.-Mexico Border Health Commission's Arizona Outreach Office and two CDC funded programs, the Early Warning Infectious Disease Surveillance (EWIDS) program and the Border Infectious Disease Surveillance (BIDS) program.

The EWIDS program manager is currently working closely with authorities from the Secretaria de Salud de Sonora on the development of a regional binational Pandemic Influenza Preparedness supplement which will be included within Arizona's and Sonora's State Pandemic Influenza Preparedness Plans.

The OBH will continue our support as a member of the Tohono O'odham Telemedicine Partnership. We will work closely with you to coordinate our border health initiatives and explore opportunities to leverage our programs and services to better serve the health of our communities.

Sincerely,

Robert Guerrero, MBA
Chief, Office of Border Health

April 30, 2007

Mr. Ben Standifer
Chief Information Officer
Department of Information & Technology
P.O. Box 2425
Sells, Arizona 85634

Dear Mr. Standifer:

The Pima County Health Department is pleased to express our support of the infrastructure development for telemedicine on the Tohono O'odham Nation. Pima County is vulnerable to incursions anywhere along its fifty miles of international border with Mexico, half of which fall within Reservation lands. The border presents an avenue for spread of infectious disease, as well as incidents of bioterrorism. The County's emergency response plans and bioterrorism preparedness efforts are dependent upon telemedicine and other technologies designed for critical health service provision in remote and rural environments.

We intend to continue working with the Tohono O'odham Telemedicine Partnership and view this work as a critical step in protecting the safety and well being of all Pima County residents.

Sincerely,

Dennis W. Douglas
Director

DWD:slg

Requested waiver of Rules

The applicant requests waiver of the requirements for competitive bidding for this proposal, as the applicant is unique in that it is the sole department funded by the Tohono O'odham Nation to provide Information Services for the Tohono O'odham Nation, and the Tohono Nation's departments and divisions are the sole entities funded to provide human services and safety programs for the Nation. Further, the Indian Health Services is the sole federally mandated provider of primary health care services for the Tohono O'odham Nation's members. Other collaborators, including the Pima County Health Department, the Border Health Agency, and the Border Patrol/Homeland Security are sole service providers.